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# EME

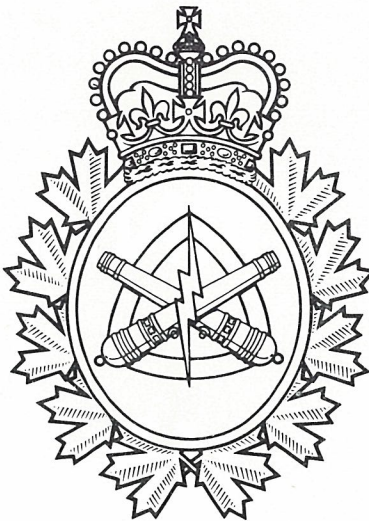
## JOURNAL



WINTER 1990

Canada





*The EME Journal is the magazine of the Land Electrical and Mechanical Engineers, published at NDHQ under the terms of reference of the Director General Land Engineering and Maintenance and the LEME Branch Adviser. The purpose of the publication is to disseminate professional information among members and exchange opinions, ideas, experience and personnel news, and promote the identity of the LEME Branch.*

*The EME Journal depends upon its readers for content. Articles on all aspects of the Electrical and Mechanical Engineering System, photographs, cartoons, people news and comments are solicited. Readers are reminded that the Journal is an unclassified and unofficial source of information. The contents do not necessarily represent official DND policy and are not to be quoted as authority for action.*

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# From the Director General Land Engineering and Maintenance and LEME Branch Adviser

by BGen J.I. Hanson

Sometime this summer I will hand over the dual responsibilities of LEME Branch Adviser and DGLEM to BGen R.N. (Bob) Fischer.

It has been a pleasure and a privilege to have served as your Branch Adviser since taking up the appointment from BGen Rolly Doucet in 1987. The Branch CWO and I have gotten around to see many of you at work and play since then, and would have seen even more had it not been for pressures caused here in NDHQ by the White Paper of 1987 and Federal Budget of 1989. During our travels we have been greatly impressed by your cheerful dedication to keeping the Army's weapon systems in battleworthy condition and also by your hard work in maintaining all the land-based equipment of the Air Force and Navy. The Branch has an excellent reputation across the Canadian Forces, and it rests on your shoulders.

There have been many high points over the last three years, certainly too many to be listed here. However, the adoption of St-Jean de Brébeuf as our Patron Saint, the opening of the RCEME-LORE-LEME room in the Maintenance Company of 5 Service Battalion, and the NDHQ approval of our new hat badge are three that stand out in particular. In addition, the fine services of then CWO John Sloan and CWO Ron Roy as your Branch Chief have made your voices heard loudly and often in NDHQ. These two fine former boy soldiers have made my job easier and frequently fun.

I will move on to other things, confident that the Branch will continue to prosper under the leadership of BGen Bob Fischer, and that our reputation for soldierly skills and technical excellence, our "Marte" and "Arte", is safe in your hands.

Arte and Marte



# The first RCEME 50th Anniversary Fund Raising Raffle is now History.

It was a nice sunny day but the tension in the air could be felt as 1100 hrs was approaching. In front of the CFSEME HQ Bldg stood some 50 spectators, BGen Fischer, Col Nappert, and the local GM dealership manager, who had just driven the first prize Chevrolet Corsica right behind the barrel containing close to 22,000 tickets.

Finally, the moment long awaited happened, BGen Fischer drew the first prize winning ticket, looked at it and paused for what seemed to be an eternity before announcing, "from St. Jean, Quebec... Denise Samoisette". The next two tickets were quickly drawn and, Mrs. Thelma McArthur from Nova Scotia won the Macintosh Computer while Sgt M. White from B. Maint Trenton won a colour TV.

The first fund raising raffle was a success with 73% of the printed tickets sold and, a net profit of close to \$14,000.00. The RCEME 50th Anniversary Trust Fund has collected to date \$29,250.00 thanks to the contribution of the LEME Officers Fund, LEME Association, regular and retired LEME pers and Units which held fund raising activities.

More details on this first draw has been published in Issue no 2 of the EME 50th Anniversary newsletter which has been distributed to all units.



Major D.B. Marcus, CFB Trenton Maint O, is shown with WO M. White, the winner of the third prize colour TV.



Capt J.G.L. Vachon, ETFC looks on as Sgt G. Poirier (MOC 411), seller of the winning tickets, presenting the keys of the 1989 Chevrolet Corsica to the lucky winner, Miss Denise Samoisette, civilian employee at CFB Saint-Jean. This Chevrolet is the first prize of the 1989 great raffle fund raising project for the RCEME 50th anniversary celebrations to be held in 1994.



Major B.E. MacDonald, CFB Gagetown Maint O, is presenting a cheque for \$4,500 to Mrs. Thelma McArthur, in lieu of the second prize computer she won. The presentation was made at the Armoury in Springhill, Nova Scotia, home of B Company 1st Nova Scotia Highlanders. Mrs. McArthur is a 76 year old widow who was sold the lucky ticket by her son-in-law, Warrant Officer (Retired) George Henwood, left in the picture.



Left to right, MWO S. Boutet CD1, LCol J. Langlois CD1, Col Y. St-Laurent CD1, MWO D. Montague CD1.

The CFB Lahr BTSO is seen presenting a cheque for DM1000 (\$650.00) to Col St-Laurent of DLES. The donation is from the CFE LEME Bonspiel Association. Seen with them is the Chairman MWO Boutet and the Treasurer MWO Montague.



# Occupation Update

## 430 Career Field Update

### Introduction

During the past year many changes have taken place within the Occupation Advisory Group. Capt Andy Neville, who replaced Maj Redman as the Deputy Occupation Advisor on an interim basis, has been relieved by Maj Carrier. CWO Paul L'Italien has moved to PMO LLAD and has passed the job of Assistant Occupation Advisor on to CWO Skip Taylor. On behalf of all members of the 430 Occupations a special thanks is extended to both Capt Neville and CWO L'Italien for their valued contributions.

### State of the Occupations

The 430 Occupations are suffering a shortage of Technicians in some rank levels. This shortage has been brought about by a variety of events including attrition, manning of capital projects and manning of new units. CFSEME has instituted a "Get Well" program to help alleviate this shortage and has been successful in conducting extra QL3 courses. The graduates will take time to be trained to a journeyman level in their chosen field. 202 Workshop Depot has been instrumental in relieving units of the need to conduct OJT (On Job Training) but with the increase in QL3 personnel the Career Manager has had to send some to Base maintenance and Service Battalion positions.

Low Level Air Defence (LLAD) units in CFE and CFB Chatham were brought up to strength as were the Workshops required to support them. Projects such as PMO AALAV, Night Observation Device Long Range (NODLR) and the Night Vision Goggles were manned. We also managed to fill the CSM position at Base Maintenance CFB Lahr (MWO Dan Montague) and continued to fill the Occupational Analysis position with DMOS in Ottawa. (MWO John Norsworthy). The demand for Fire Control Technicians will continue to increase as technology expands and new equipments are purchased to meet this high tech expansion.

### Training

Training must also keep pace with this expansion if the equipment is to be maintained to the same high standard. To continue to prepare our technicians to meet our changing needs means that significant changes must be made to training. With this in mind POET has been restructured so that a technician will be better prepared earlier in his/her career.

By the FY 90/91 POET will be expanded to the point where a successful student will attain the XG (Electronic Fundamentals) qualification and the 9L level of XH (Digital Principles) qualification. This level of training is presently attained by our technicians at the QL5 level. As you can see we will have major change requirements not only in our training packages but also in our basic Occupation Specifications.

The training at the WO level has been well established in the QL7 package. This common training for all EME Occupations is a prerequisite for promotion to the rank of MWO. This package covers all aspects of EME management and provides our Technicians with a well based knowledge enabling them to accept base and field positions common to the Branch.

### New Equipment

The 430 Occupations have been introduced to many new concepts as applied to old technologies during the past year. Everything from a miniature set of binoculars, trialed in CFB Gagetown, to the many changing facets of night vision equipment has been effected. Some of the notable equipment acquisitions are the Chemical Agent Monitor (CAM) and LLAD systems.

The rebuild of the Leopard Tank at 202 Workshop Depot is proceeding very well and a similar program to refurbish the M109 fleet is well into the scaling phase.

With the changing role for the AVGP family of vehicles, new sighting and weapons systems are being considered.

Even such simple systems as photocopyers are not exempt from change. A field force copier set was introduced and is designed to produce limited copies during field exercises. An Engineering copier has also been procured to replace the "BLUE RAY" copier. LETE has designed and built (with a lot of help from Mr. Ron Charron) a light proof box which doubles as a mount for the copier. It is hoped to have this copier available to units soon.

A replacement (M2100) periscope is also being considered for the M17 periscope presently used on the M113 Vehicle and on the M109. The M2100 periscope is Laser Eyesafe, and Ballistic Protected with glass optics. It is a completely repairable and purgeable optical system. This is a vast improvement over the M17 plastic, non-repairable system. This new periscope is presently installed on some M113 with the R22R in Valcartier.

PMO AALAV is a report in itself as they are considering numerous upgrades to existing equipment and procurement of new equipment. Upgrading systems such as the 84mm Carl Gustav and the TOW missile and the replacement of the M72 66mm rocket system with an updated system should provide the user with greater Anti-Armour capabilities.



## The Future

The future for the 430 Career Field is opening on to an era of expanding technologies. During the recent Ex Blue Bell 430, working groups have discussed the implications brought about by these rapidly changing technologies. With the changes to POET coming into effect, the senior technicians felt the need exists to split the occupation after POET. This change would effectively delete the 431 occupation. As with any proposal to change the

Occupational Structure, a great deal of work is involved. Implementation of such a structure change requires agreement not only from the EME Branch but from many Directorates within NDHQ. For those that can remember back to the start of the 1980's when we initiated an Occupational Analysis (completed in 1982) for the EME Occupations, the 1990's appear to be leading toward another step in this direction.

Members of the 430 Career Field have always prided themselves in serving others with a high degree of professionalism. This service is present in all aspects of the EME Branch and the members of the 430 Career Field will continue to maintain this high standard now and into the future.

# The Craftsman Statuette

"The Craftsman" statuette was commissioned on a limited edition basis by the LEME Officers Fund from the Noted sculptor, Col A.D. Gauthier. Only forty will be produced.

The first in the series which will ultimately include figures representing all of the LEME technical occupations, depicts a Corporal Vehicle Technician; it measures 21 x 23 cm and is 27 cm tall.

This attractive statuette may be purchased through the Secretary LEME Officer's Fund; the price is available upon request (CFB Borden, local 2750)





# From DGLEM Directorates

## DLES

### *Maintenance Organizations in Corps 96*

#### BACKGROUND

System Study 1996-2005, the Corps Model, is being written to carry on the Combat Development process revived with System Study 1986-1995. Once completed System 1996-2005 will become a basis for future doctrine, organization and equipment requirements. System Study 1996-2005 has been broken down into several Combat Function Studies including Close Combat, Fire Support, Command and Control, and Combat Service Support (CSS). The direction given to the CSS Study, as with the other Combat Function Studies, was to use the existing Corps 86 model as a basis, making changes only if circumstances dictate a change in concept. In addition the goal is to maintain a Corps ceiling of 100,000 personnel of which up to 20 percent can be CSS personnel.

The following is an excerpt from the briefing given to the Combat Service Support Senior Officers' 5 April 1989 at National Defence Headquarters in Ottawa. Attendees at the briefing included DGLEM, BGen J.I. Hanson and DCOS Log FMCHQ, Col J.A. Boucher.

#### OUTLINE CONCEPT

The maintenance concept for the support of Corps 96 is evolutionary not revolutionary in nature. The concept is based on proven practices and principles. The principle source documents for the concept are B-GL-314-001/AF-001, The Land Maintenance System, B-GL-314-002/FP-001, Maintenance in Battle and NATO CSS Concepts for Land Forces 2000.

The following are some of the basic elements of the maintenance concept:

- a. the Land Maintenance System (LMS) is responsible for maintaining ALL land technical equipment in the Corps. Land technical equipment does not include medical, dental, aviation, fixed

communications equipment or plant;

- b. maintenance organizations are formed by lines which carry out maintenance tasks which are classified by levels;
- c. the LMS has four lines of maintenance, but only three levels of repair and two levels of recovery;
- d. equipment will be repaired as far forward as technically and tactically feasible;
- e. the operator of any piece of equipment will be the person who becomes familiar with that piece of equipment. He will likely be the first to note trouble and prevent equipment failure by his own action or by alerting a unit technician;
- f. maintenance organizations are structured to meet the average workload, not surge requirements;
- g. maintenance organizations are structured based on the equipment to be supported and concept of operation of the supported unit or formation; and
- h. repair parts/spare assemblies are critical for the provision of maintenance support. This is especially true at lower lines of maintenance where modularity of design will permit, and the tactical situation will dictate that, repair by replacement of assemblies and/or sub-assemblies will be the norm.

#### CAPABILITY REQUIREMENTS

In order to support the above concept, maintenance organizations must have the following capabilities:

- a. centralized command and control at all lines to ensure efficient utilization of limited maintenance resources. At first line some organizations are decentralized to

meet the operational concept of the supported unit. This is done with the cost of increased overhead;

- b. ability to re-locate and defend themselves;
- c. higher line organizations must be equipped to provide assistance to lower line organization to meet surge requirements;
- d. forward repair elements will require mobility and protection equal to the supported unit to permit them to operate in the forward battle area; and
- e. due to the criticality of repair parts, a repair parts element is required to be integral to repair sub-units.

#### ORGANIZATION

The organizations to support Corps 96 are based on the above concept and capability requirements. The basic outline structure for a maintenance organization consists of the following:

- a. a headquarters (HQ) which provides the command and control function required of any unit. In addition, a workload control element is required to provide technical control over production.
- b. CSS element to provide first line support for the unit;
- c. production units/sub-units which make up the bulk of the maintenance organization and carry out the workload;
- d. a repair parts sub element organic to maintenance units/sub-units.

Up until now I have spoken in generalities. I will now roll up the outline concepts and capability requirements and relate them to the organizations which have been developed.



## CORPS

The Corps Maintenance Brigade is the highest line (third line) maintenance organization organic to Corps 96. This formation is responsible for providing the following repair and recovery services for the Corps:

- level three repairs for all land technical equipment in the Corps;
- provide a third line recovery unit to support the Corps and act as second line for Corps Troops (Tps); and

- level two and limited level three support to Corps Tps and assistance to forward Divisions.

From the above capability requirements this formation has a HQ, a Heavy Workshop (Hvy Wksp), a Medium Workshop (Med Wksp), and a Recovery Battalion (Rec Bn) as can be seen in Figure #1.

### DIVISION

Except for the Corps Mechanized Brigade Group (CMBG), division level is the lowest level with organic second line CSS support within Corps 96. The

Division Maintenance Battalion (Div Maint Bn) is the second line maintenance unit providing the following repair and recovery services for a Div:

- level two forward repair support to Div Tps and forward Bdes;
- provide a second line recovery unit to support the division and act as first line for Div units without recovery support;
- level two and limited level three maintenance for tracked vehicles and engineer eqpt not completed using forward repair;
- level two and limited level three maintenance for wheeled vehicles not completed using forward repair;
- level two and limited level three maintenance for Weapons and Electronic (W&E) eqpt not completed using forward repair.

Based on the above capability requirements the organization shown in Figure #2 has been developed.

### CMBG

The CMBG is the only brigade sized formation within the Corps which is provided with organic second line CSS resources. These resources will be grouped in a Service Battalion which most personnel will be familiar with. The CMBG Maint Company (Coy) will provide level two and limited level three maintenance support for the CMBG. Specifically, the CMBG Maint

## CORPS MAINT BDE

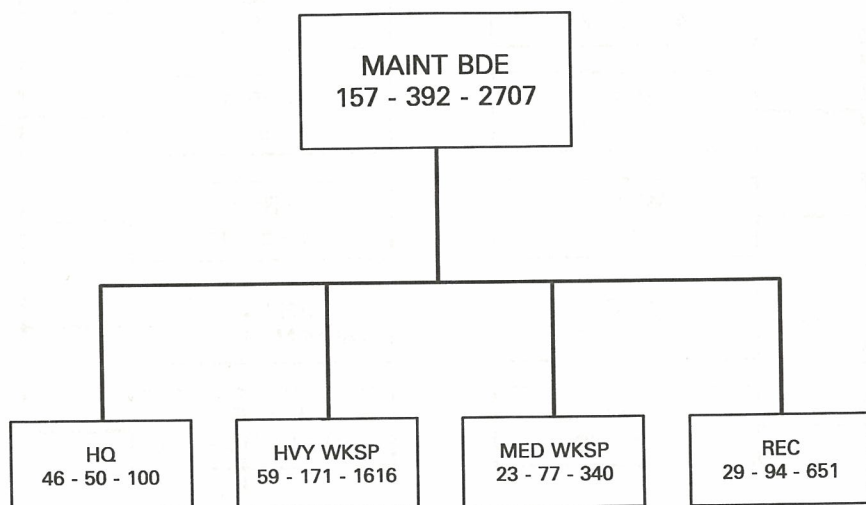


Figure 1

## MECH DIV MAINT BN

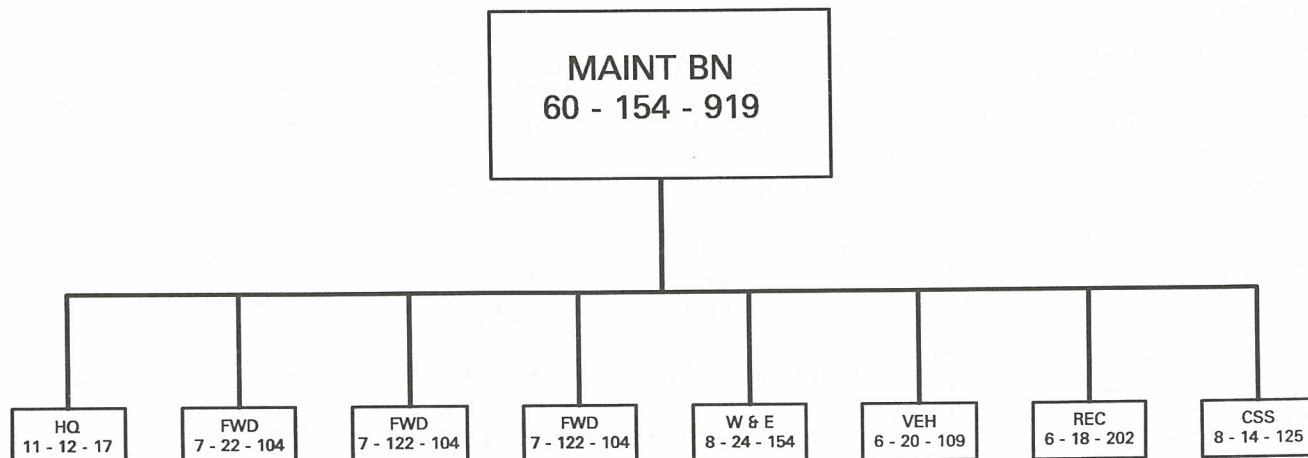


Figure 2



Coy is structured to be able to carry out the following functions:

- level two forward repair support to CMBG units;
- level two and limited level three maintenance support not completed using forward repair; and
- provide a second line recovery unit to support the CMBG and act as first line for CMBG units without organic recovery support.

The CMBG Maint Coy consists of a Main Repair Group (MRG) including Coy HQ and a Forward Repair Group (FRG) as seen in the Figure #3.

#### CHANGES FROM CORPS 86

As I stated initially the maintenance concept has been developed in an evolutionary process based on proven concepts. I will now outline the major changes from Corps 86 to Corps 96:

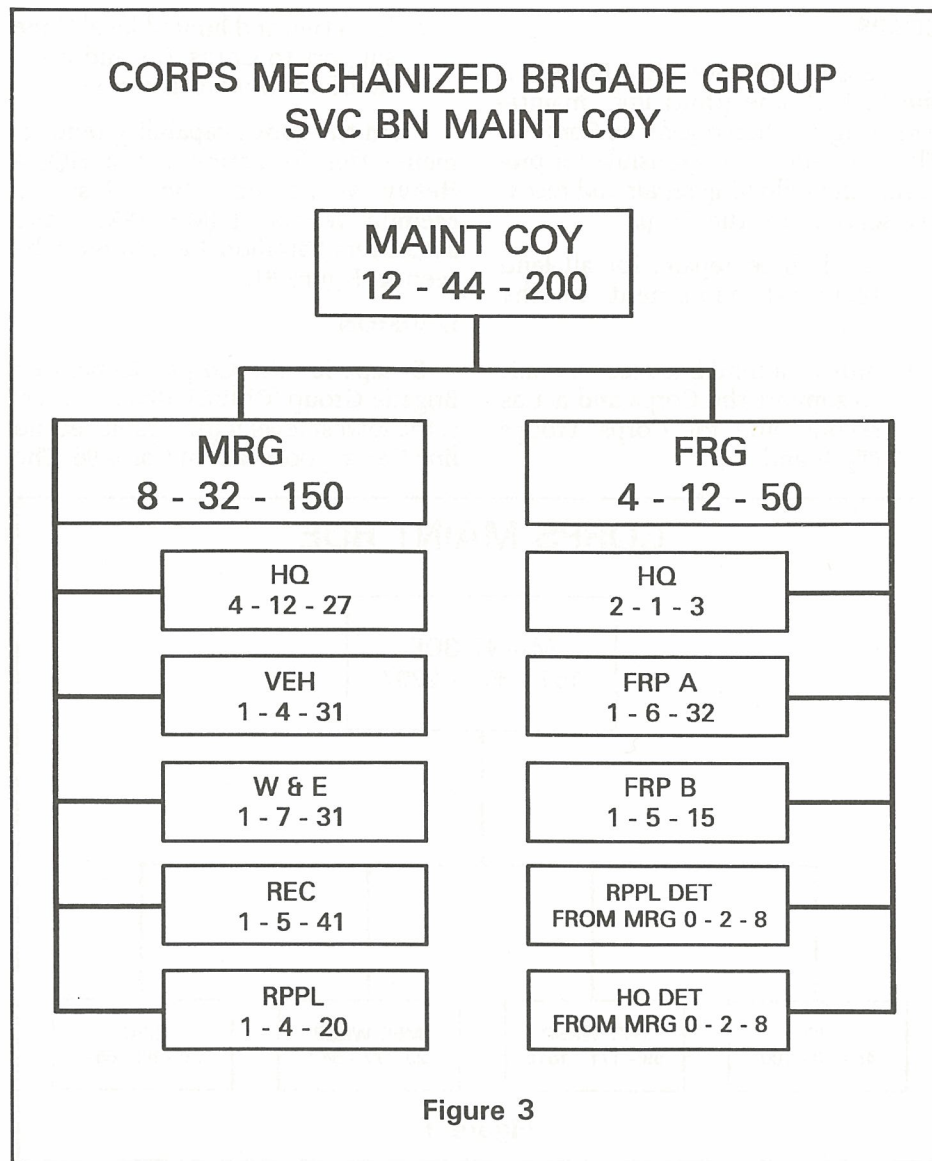
- repair parts support was organic to Corps Heavy Wksp, Div Maint Bn's and CMBG Maint Coy in Corps 86. This has been maintained and expanded with a Repair Parts Platoon organic to production companies at all lines of maint.; and
- in keeping with the overall goal of maintaining a Corps ceiling of 100,000 it can be seen from the following figure where an overall reduction of 50% was achieved for 2nd/3rd line maint pers comparing Corps 96 to Corps 86.

The reasons for this dramatic reduction are:

- use of a theoretical model to estimate casualties and hence maintenance requirements;
- pushing engineering/training to The Echelon Above Corps (EAC);
- limiting third line to reconditioning of critical major assemblies.

#### CONCLUSION

Combat Development is an iterative process, while the concepts outlined above are based on current doctrine the size and detailed make up of the various units shown are not cast in concrete. It is hoped that this outline has provided EME personnel with some insight into the future of maintenance support concepts.



<b>MAINTENANCE PERSONNEL CORPS 96 VS CORPS 86</b>			
<u>UNIT / FORMATION</u>	<u>CORPS 86</u>	<u>CORPS 96</u>	<u>% REDUCTION</u>
Corps Maint Bde	292-6016	157-3099	48%
Div Maint Bn (X3)	182-5654	180-3188	42%
DISGP Svc Bn			
Mech	28-599	0	-
Armd	28-573	0	-
CMBG Maint Coy	14-414	12-244	40%
Total 2nd / 3rd Line	544-13256	349-6531	50%

**Figure 4**



# DLAEEM

## Advances in Night Vision Image Intensification

by Capt. P.M. Soulliere

### NIGHT VISION GOGGLES (NVG) AN/PVS 504

#### Background

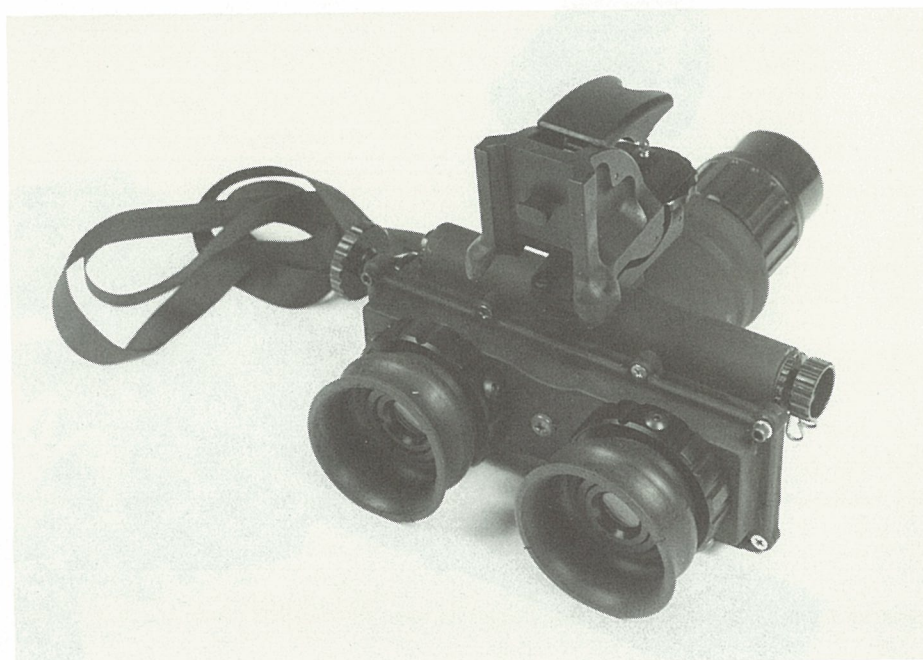
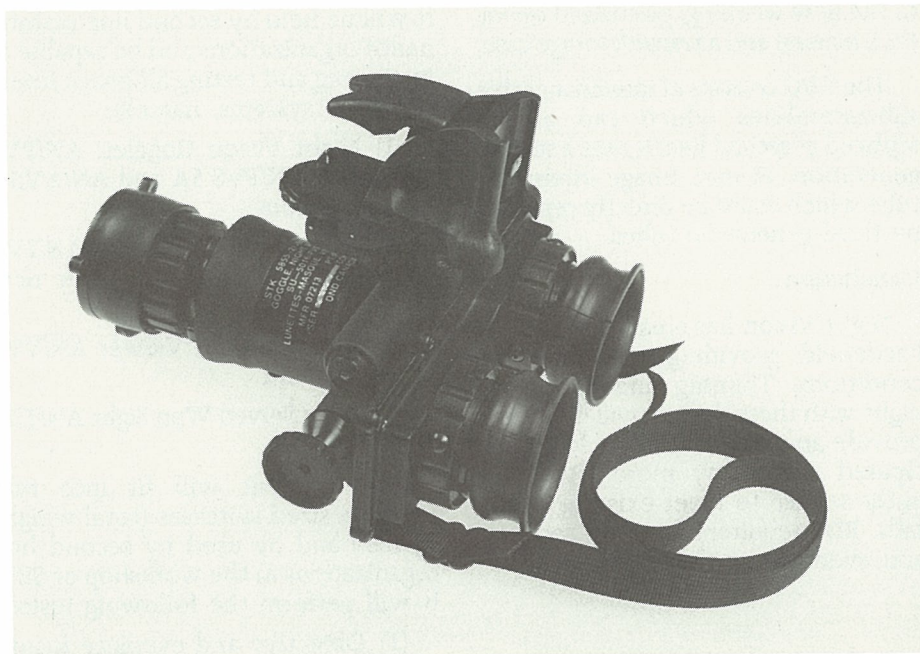
The requirement for NVGs originated from the fact that weapon sights and long range observation devices were usually unsuitable for *routine tasks* at night because of their bulk, narrow FOV and hand-held operation. A small quantity of approximately 300, two tube, AN/PVS 5A goggles, developed in the U.S.A., were procured in 1979-81 for use by our vehicle crew commanders in our Light Armoured Vehicles. The next procurement of goggles, for use by all land force personnel in much larger quantities would be a *single tube* goggle at considerably less weight and cost.

A quantity of 2586 NVG, AN/PVS 504, have been recently built by Bendix Avelex Inc., of Montreal. It is the first contract for a night viewing device, built by a Canadian Company. Approximately 75 NVG, were issued in the Fall of 1988 and the remaining NVG in the Summer 1989.

#### Equipment-Description and Use

The new NVG is a light weight, head mounted, *passive* night vision device used in starlight or moonlight. Primary users will be sentries, recce parties and patrols of all arms, vehicle crew commanders, surveyors and infantry pioneers on minor field engineering tasks, sappers on all tasks, forward repair/recovery teams, medical aid personnel and line crews.

The NVG offers significant advantages to the users. These include a lighter suspended weight of only 620 gm through the use of a Head Support Assembly secured to the head before the goggle is donned. The NVG has a multiple adjustment mechanism providing verticle, horizontal and tilt movement and permits quick release from the Head Support all with one hand operation. It is compatible with the current (M2) and future *helmets*



Night Vision Goggle, AN/PVS 504

and can be worn over top of the current (C3) and new (XC4) *respirators* with minimal degradation of the FOV. A significant effort was placed on these human engineering aspects

which utilized resources from DLAEEM, DLR, Trials and Evaluation at CTC and engineers (in particular Mr. Walter Thomanek) of the prime contractor, Bendix Avelex Inc.



Other system characteristics include: objective range focus, diopter (since it is worn without spectacles) and interpupillary distance adjustment, infrared diode for map reading, specially coated antifogging shields on the eyepieces, AA battery operation using two alkalines or one 3 volt lithium combined with a spacer attached to the battery cap for cold weather operation, a carrying pouch for attachment to the new webbing, plasticized operator's manual and a transit/storage case.

The NVG consists of interchangeable sub-assemblies which can all be replaced at second line. It uses a second generation, 18 mm, image intensifier tube which could be directly replaced by third generation tubes.

### Conclusion

Night Vision has created a 24 hour battlefield providing near daytime conditions. Training and tactics at night with these devices will definitely provide an important edge. It is anticipated that many more NVG will enter service to meet existing shortfalls, BDF requirements, MP security and even use by the Navy.

### NIGHT VISION TEST SET (NV/TS)

If you are a FCS Tech you are probably aware that there is no test equipment in service for Night Viewing (NV) equipment. Our current NV systems cost between 6 and 10 thousand dollars and our inventory will more than triple by 1992.

The NV/TS, made by BAIRD Corp., of Boston, will enter service in 1990. It will be held by second line maintenance organizations and be capable of inspecting and testing all image intensified NV systems, namely:

- (1) Night Vision Goggles: AN/PVS 504, AN/PVS 5A and AN/AVS 6 (aviators);
- (2) Individual Wpn Sights: AN/PVS (501), (502), 503 and our new LIWS;
- (3) Driver's Night Viewer AN/VVS 501; and
- (4) Crew Served Wpn Sight AN/TVS 502.

The test set will fit into two medium sized suitcases (total weight 75 lbs.) and be used by second line organizations in the workshop or SEV. It will perform the following tests:

- (1) Objective and eyepiece focus,
- (2) system resolution and FOV,

- (3) reticle verticality, limits and verticality of reticle movement,
- (4) collimation of optical axis and or mechanical axis,
- (5) magnification/subtense or reticle or unity or greater power systems,
- (6) system current drain, and
- (7) Image intensifier tube: screen uniformity, auto brightness control, and gain.

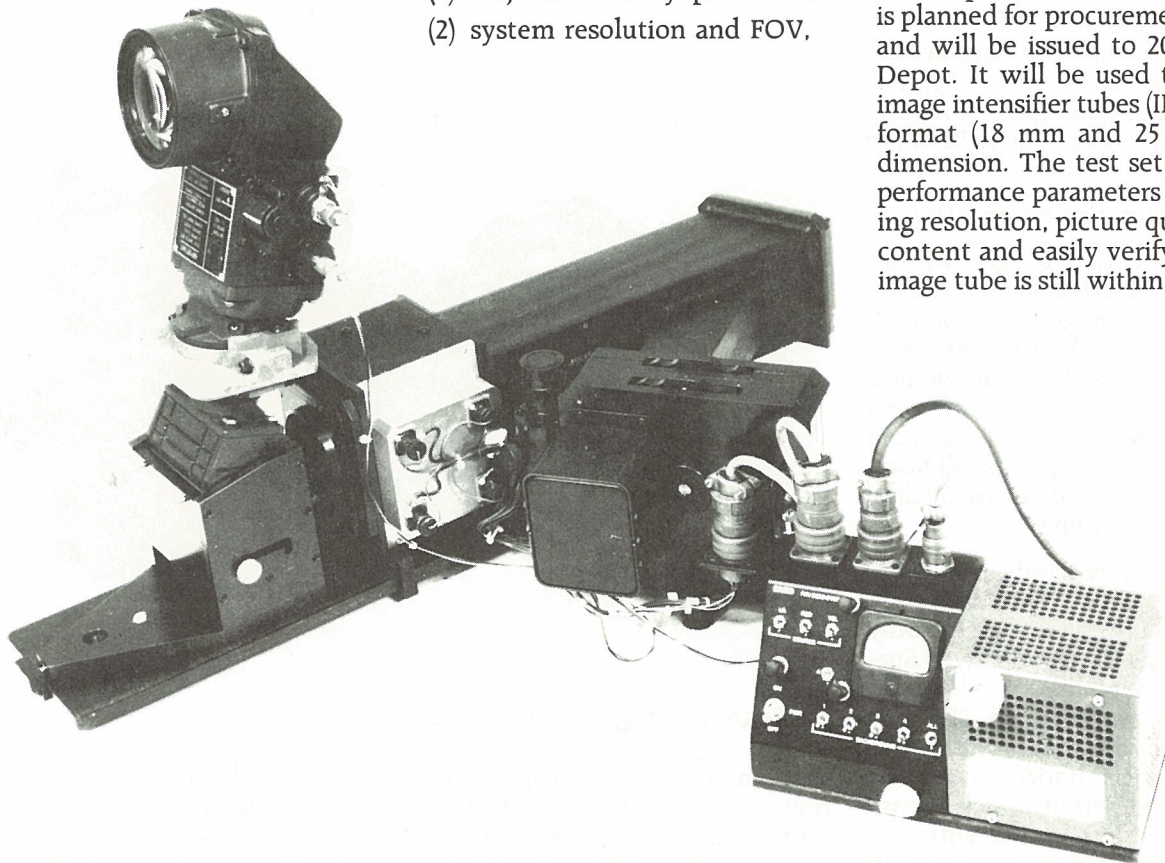
### LIGHTWEIGHT INDIVIDUAL WPN SIGHT (LIWS)

The current AN/PVS 502, first generation IWS, will be replaced in 1991/92 by a one kg LIWS. It will operate using second or third generation image intensification technology of 18 mm format similar to that of the NVG and run on two AA batteries. The LIWS will be much smaller in size, easy to maintain and will not white out (bloom) when exposed to indirect lights or lighting.

The new LIWS may be adapted to the C1, C2, C3, C6, C7, C8, C9 and SRAAW (Carl Gustaf) wpn systems.

### IMAGE INTENSIFIED TUBE TEST SET

This portable test set (called FLITE) is planned for procurement in 1990/91 and will be issued to 202 Workshop Depot. It will be used to inspect all image intensifier tubes (IIT), varying in format (18 mm and 25 mm) and in dimension. The test set will test the performance parameters of gain, limiting resolution, picture quality and gas content and easily verify whether an image tube is still within specification.





# DCMEM

## *AVGP Front Suspension Modification*

### **General**

The major chassis problem area which has plagued the AVGP fleet since its introduction has been the poor reliability of the front suspension. Previous efforts had been made to find a solution to this problem, however the technology to correct it was not available until recently.

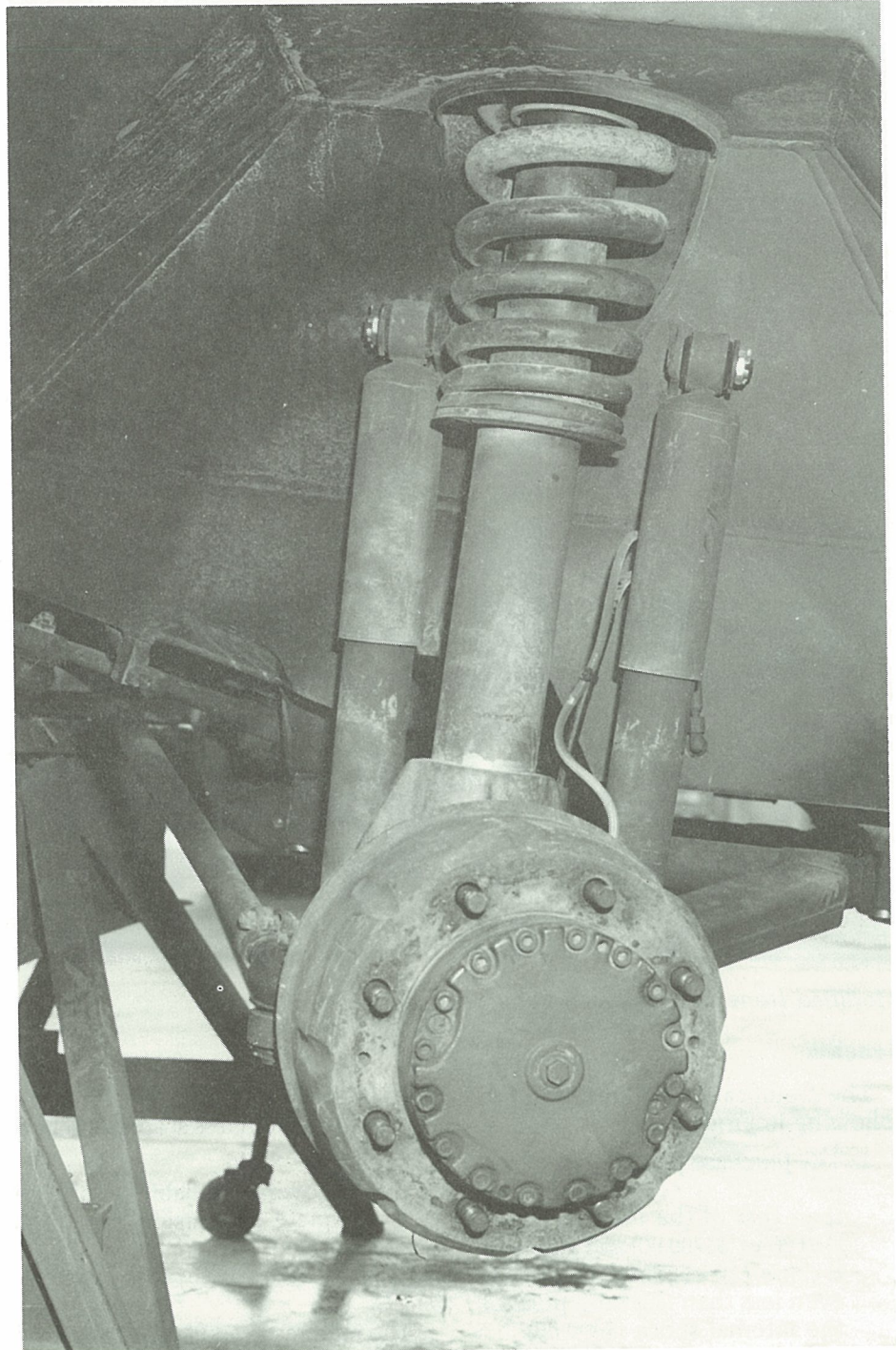
### **Front Suspension PI**

The internal Koni front shock has proven very unreliable, time consuming to replace, and very costly to repair and/or purchase. In addition, the front springs, while providing a very smooth ride, tend to bottom out with high frequency when driven at speed over rough terrain which causes additional undue stress on the front suspension components. This modification to the front suspension system to correct the above problems utilizes the technology and parts from the Marine Corps LAV 25 8x8 vehicle. The mod will be carried out at second line maintenance organizations with the contractor, Diesel Division General Motors of Canada Ltd. (DDGM), providing initial training and coordination at each location including provision of modification kits.

### **Modification Components**

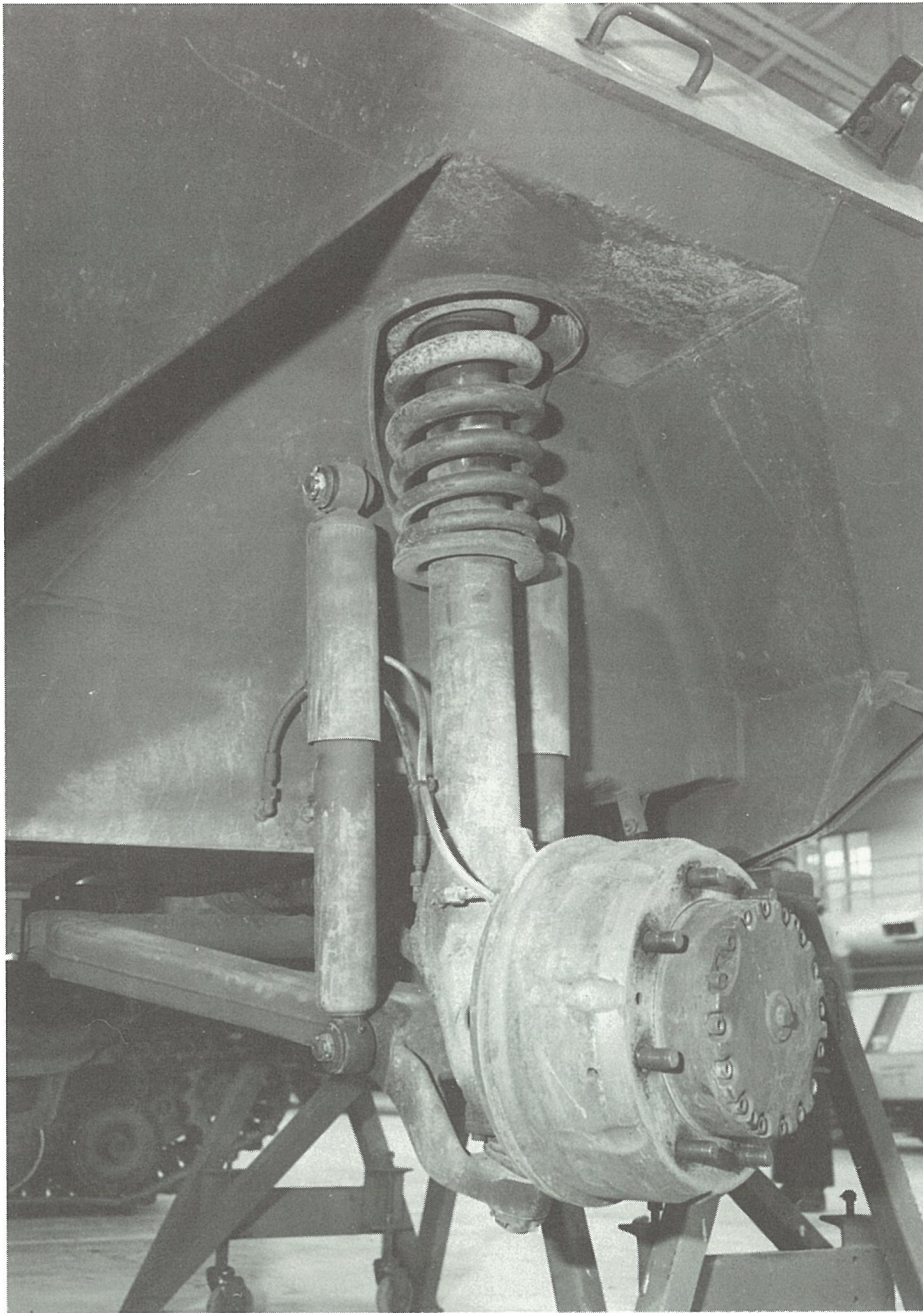
The following items comprise the AVGP Front Suspension Modification:

- a. Dual external shocks identical to rear shocks;
- b. Non-linear front coil spring to increase spring rate at maximum spring compression;
- c. New oscillating support arm with external shock mounts and improved bearing adjustment facility;
- d. Upper shock mounts welded to the hull;
- e. Guide rod assembly to replace internal shock; and,
- f. New spring tube assembly to replace current rubber bump stop washers.



*AVGP Modified front suspension*





*Modified front suspension showing rear shock mount*

### Benefits

The modification will result in the following improvements:

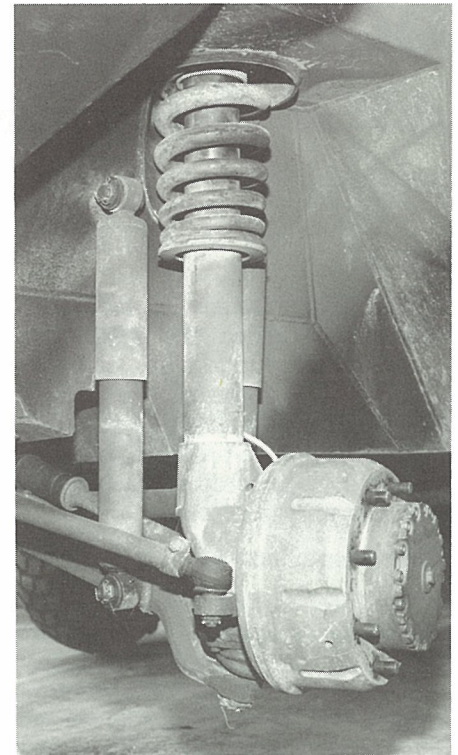
- a. The purchase price of the external shock is considerably less than that of the internal shock (\$80.00 vs. \$1200.00) and although it cannot be repaired, its price is even less than the R&O price of the internal shock (\$400.00);
- b. Shock replacement time is reduced considerably (30 min vs 3 hrs) and it can now be done by unit maintenance personnel vs second line;

- c. Improved spring performance will result in less suspension bottoming; and,
- d. The overall reliability of the complete suspension system is improved.

### Status

The mod received LMMRB approval at Meeting 1/89 held 23 mar 89.

Eight (8) modified vehicles have now completed a user trial at RV 89. The trial vehicles consisted of four (4) Cougar which were tested by



*Modified front suspension showing front shock mount*

LDSH(RC) and four (4) Grizzly which were tested by 1 PPCLI. The vehicles were employed for normal operations as part of regular sub-unit organizations to ensure realistic usage requirements were met.

An engineering trial is currently ongoing on one modified vehicle at LETE with instrumented suspension to assess operating temperatures of the shocks and to determine strain measurements at various mounting locations;

A presentation is being drafted for PCBSC and is planned for submission Fall 89 on receipt of the user trial report and successful completion of the LETE engineering trials; and,

Funding for the program has been included in the Estimates for 90-92 (\$6M).

### Implementation

Pending successful completion of the current engineering trial and receipt of final approval and funding, it is anticipated the modification will be implemented commencing Fall 90. The mod can be carried out at selected second line maintenance facilities with timetable coordination being managed by FMC.



# From Canadian Forces Europe

## LEME Day in CFE

There is no doubt that one of the strengths of, first the RCEME Corps, and now the LEME Branch, has always been a strong sense of family between all of our soldiers. Again this year, LEME soldiers in CFE gathered to celebrate the Branch Birthday and to demonstrate to all that our esprit is second to none. 19 May 1989 saw all available LEME personnel in CFE gather at the Lahr Sportsfield for an inter-unit sports competition. Events included the 100, 400 and 1500 metres dash, shot put, and discus, while the team sports were baseball, volleyball and tug-of-war. To ensure that even those who were not athletically inclined could participate, there was a tabloid event of "fun" competition (such as mini-obstacle course) and an old timers track relay race.

The day was organized overall by Maintenance Company of 4 Service Battalion. However, each individual sport was run by a Maintenance Troop/Platoon from each of the Brigade Units. Certainly the job was well done by all.

One of the day's more important events was the presentation of the Corporal Glen Benoit Memorial Award. This prize was donated by all ranks of

the Royal Canadian Dragoons in memory of Corporal Benoit, a Fire Control System Technician who was killed while working on a LEOPARD CI tank in 1985. This prize recognizes the most deserving Craftsman/Corporal in CFE based on consideration of performance, personal conduct, dress and deportment, physical fitness and community participation. This year, Corporal J.G. GAUDREAULT, of Maintenance Company, 4 Service Battalion won the award.

When all the dust had settled, the Maintenance Troop of the 8th Canadian Hussars, led by Captain J.H.P.S. Carignan had come out on top with 26 points. They were closely followed by 4th Air Defence Regiment "B" team and then Maintenance Platoon of 1R22eR.

The day finished with an all ranks dance and buffet supper organized by the Forward Repair Group. A LEME cake, baked by Mrs. Steinke, wife of the FRG Group Sergeant Major, was enthusiastically consumed by all.



*Cake Cutting Ceremony LEME Day 1989*



*LCol J.A.G. Langlois, Lahr Base Technical Services Officer and Senior LEME Officer in CFE presents the Corporal Benoit award to Cpl J.G. Gaudreault, 19 May 1989.*



*LEME Day 1989 Parade of Athletes CFB Lahr*



# An Interesting Recovery Task

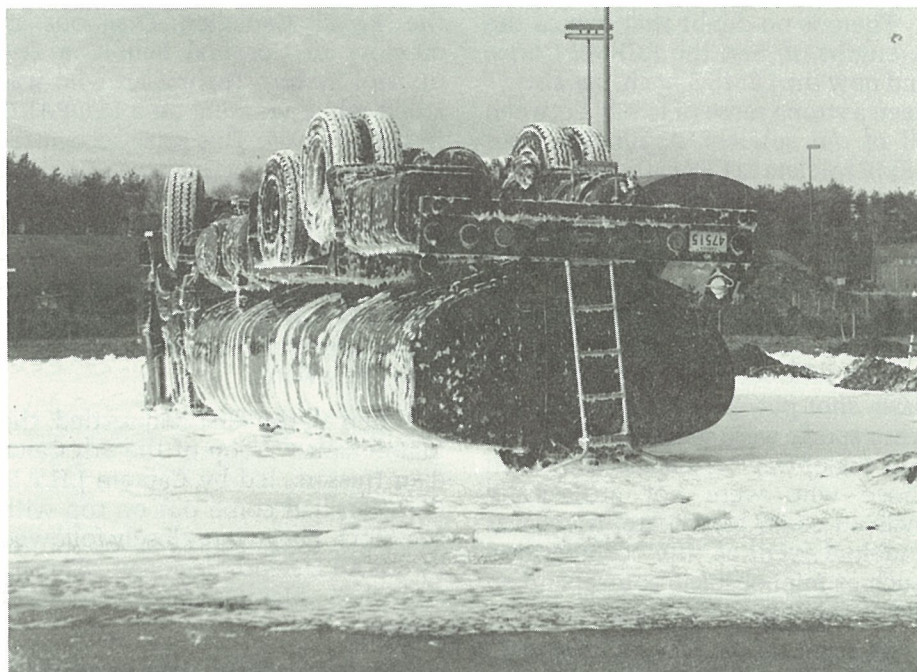
by Lt Shearing, CFB Baden

Vehicle recovery can be a challenging job especially when the drivers have found new ways to incapacitate their vehicles. Righting an overturned truck can be an interesting task but add 18000 ltrs of jet fuel and it becomes even more so. Now put that overturned truck full of jet fuel in front of a Hardened Aircraft Shelter (HAS) containing a fully armed CF-18 and it becomes very interesting!

Late Friday afternoon in May a call came in to Base Maintenance Baden for recovery of an overturned refueller. When the recovery crew arrived on the scene they found a refueller overturned full of jet fuel approximately 15 meters from an occupied HAS. The Fire Fighters had already responded and covered the refueller and surrounding areas with foam. The tank was crumpled along one side and corner with only a small amount of leakage.

The first priority was to contain the spillage of fuel for safety and environmental reasons. The Construction Engineers built an earth wall for the purpose. The next problem to be tackled was what to do about the 18000 ltrs of fuel still in the tank. It was obvious that the fuel would have to be removed in order to right the refueller without tearing off the tank.

This was solved by MCpl Brian Fleming the local expert in Heavy Equipment who knew there was a drainage valve on the bottom of the tank. This plate was removed by MCpl Fleming who took extra care and used non-sparking tools. Once the valve was removed the fuel was drained by another low pressure refueller. Next an earth ridge was packed against one side to cushion the roll. Two 5 ton SMP wreckers were used, one to roll the truck and the other to control it once it was past its centre point. The recovery task was controlled by Sgt Stephan Richard who ensured that it went smoothly.



*"What a Mess!"*



*Sgt Stephan Richard controls the wreckers to bring her "up and over."*

Thanks to the ability and acknowledge of all participants a difficult and challenging task was accomplished in a thoroughly professional manner.



# From Communication Command Communication Command Update

In the last article on Communication Command, it was mentioned that a Statement Of Requirement (SOR) for a new maintenance facilities in CFS Alert would be produced. This SOR has been produced by the SO Maint and was reviewed by the Supplementary Radio System Headquarters. Because of the comments received from SRSHQ, the SSO Log's staff will review this SOR in the near future. Until CFS Alert has this new maintenance facility available, which may take between five to ten years, SO Maint and the maintenance personnel of CFS Alert have started to review the readiness of the vehicle fleet in Alert. A preventive maintenance plan was produced and reviewed in spring 89 because of problems encountered with the synthetic oil used in Alert. Because of this, the usage of synthetic oil was stopped and an UCR was produced. This situation will probably require that DCGEM organizes a testing program that will verify different grades of oil at different temperature and at different engine's RPM. UCRs were also produced on the readiness of the equipment to function in the climate and weather of Alert. These UCRs should permit the utilisation of better prepared vehicles to encounter the very cold temperature of Alert and thereafter reduce the demand on vehicle technicians.

Also, since the last article, the SO Maint has visited the Communication Reserve Units of 74 Communication Group Vancouver, 76 Communication Group Ottawa and 72 Communication Group Halifax. These visits have permitted the gathering of information that will be used to produce an "Aide Memoire" on land maintenance in the next few months as to help the reserve vehicle and radio technicians to do their job more easily.

The Maintenance Section of CFS Masset was also visited for a second time. This second inspection proved to be successful since a lot of improvement has taken place even though there is still only one vehicle technician at the station. The undersigned hopes and is confident that this shortage will be resolved very soon. The SO Maint has also produced a preventive maintenance plan for CFS Masset as to reduce the requirement of corrective maintenance.

CFS Debert was also visited to look into Phase III of its reorganization plan. Under this plan, the transport, maintenance and construction engineering sections would be transferred from CFB Halifax/MARCOM to CFS Debert/CFCC when positions would be available. During this visit the SO Maint evaluated the personnel and the facility requirement. His report and recommendations will be sent to 72 Comm Gp HQ Halifax.

From the above, you have surely deducted that the SO Maint has done a lot of travelling and written a lot of visit report. Just to give you an idea, from April 88 to June 89, he has visited CFS Masset (twice), 1 Line Troop Kingston, CFS Carp, CFS Alert, CFS Debert, the Communication Reserve Units located in Beauport, Sherbrooke, Montreal, Thunder Bay, Regina, Saskatoon, Winnipeg, Borden, Hamilton, Toronto, Edmonton, Red Deer, Calgary, Nanaimo, Victoria, Vancouver, St. John N.B., Charlottetown, St. John's NFLD and Halifax, and the Base Maintenance of CFB Valcartier, CFB Montreal, CFB Moose Jaw, CFB Winnipeg, CFB Borden, CFB Toronto, CFB Trenton, CFB Kingston, CFB Edmonton, CFB Penhold, CFB Calgary, CFB Esquimalt, CFB Chilliwack, CFB Gagetown, CFB Summerside, CFB St. John's and CFB Halifax.

In the next few months the SO Maint will keep busy by:

- a. finalizing the SOR for the MSE facilities of CFS Alert;
- b. producing and "Aide Memoire" on land maintenance for the Communication Reserve Units; and
- c. starting the writing of Maintenance Policies and Directives for Communication Command.

Arte et Marte.

Claude Turmel  
Captain  
SO Maint L  
CFCC HQ



# Canadian Forces Station Masset B.C.

by WO P.G. Stauffer STnO

Located approximately 130 kms west of Prince Rupert, British Columbia is Canada's most westerly station. CFS Masset who's primary role is defined as:

- a. operate, maintain and manage a signal intelligence collection service, and
- b. operate and maintain high frequency Canadian-American network providing support to search and rescue operations.

CFS Masset employs 250 military and 80 civilian personnel. The Administration site is situated in the village of Masset and is under the "Open-Base" concept in that it is an integral part of the surrounding community.

## Origin of Name

In 1791, an American ship, the *Columbia*, sailed into Masset Sound and Hoskins, the ship's clerk, wrote "Captain Crowell has named this fine waterway, 'Hancock River' (named after Crowell's ship, 'Hancock' and the Governor of Massachusetts, John Hancock), but it is called by the natives 'Masheet'."

A story told in Haida today of how the name 'Masheet' came into existence, says that one of the first ships to come into Masset Harbour anchored off what is now the village of Masset. One of the officers, a man named Masseta, died and was buried on the little island off which the ship lay anchored. The Haida called the island after him, and finding it too difficult to pronounce, corrupted the word to "Mah-st-t". From this, in 1878, George M. Dawson, geologist and naturalist well known in this vicinity, named the island 'Maast', saying as he did that he felt this island has been the origin of the name 'Masset'.

Masset townsite was originally named 'Graham City' after the president of the Graham Steamship, Coal and Lumber Company, Benjamin Graham. When the township plan was registered on July 30, 1907 it was deposited under the name of 'Masset'. Government officials were unaware of the settlement two miles north, Haida Masset, and accepted the transfer. On June 7, 1909, the name Masset was adopted and Graham City was dropped.

## General Information

The Village of Masset, elevation 6.7 m., is located approximately 132°09' W, 54°02' N on Masset Sound near the North Eastern corner of Graham Is., the most northerly and most populated of the Queen Charlotte Islands. Masset is one of the two incorporated settlements on the islands and has the largest population (approx. 1600). Principal occupations are fishing and the Canadian Forces Station. The village boasts of many varied activities to occupy the interests of all. The deer on the island are of the black tail species and are quite small but plentiful. For this reason, the hunting season for bucks is open from 01 June to 28 February. The catch limit is ten deer per hunter per year. There is a wide variety of ducks and geese near Masset. The season is quite short but the meat is very good. Canada Geese are quite common. Walking is the best way to enjoy the many miles of sandy beaches. Each new tide brings in something new making beachcombing a favourite passtime of many. The beach area north of Tow Hill to Rose Pit is open year round to vehicular traffic. Before driving on the beach, one must be sure to consult a tide chart as the tide range is large and comes in fast.

## About the Station

As you can appreciate the logistical support for a Station that is as isolated as CFS Masset, can become very complex to say the least. To handle all the transport requirements, the MSE Section is equipped with 20 various pieces

of equipment such as 1 ton C/Cabs and Suburbans, 16 and 28 passenger Buses, 3 tons and a 55 hp 4x4 Front End Loader to name a few. To affect repairs and maintain this equipment the Station has established one Master Corporal Vehicle Technician 411 (an ECP for a Cpl Veh Tech 411 has been approved and will be manned during APS 90). This most demanding job falls on the shoulders of MCpl J.D. Willcott. Other areas within his responsibilities are the maintaining of two 55 hp and four 25 hp outboard motors belonging to the Station Ground Search Team.

Being the only true mechanic on the island, numerous other jobs are directed his way. The maintaining of 54 small engines which are used by CE Roads and Grounds Section such as lawnmowers, portable generators and water pumps and in the winter snow blowers are just a few of the items which can occupy a fair share of his day. NPF has its fair share of work in the form of lawnmowers from the Golf Course, outboard motors from the Boat Club and new this year the maintaining of a Rexo-Therm Cruise Melter for the Curling Club. Our Maintenance Section is one of the best equipped, for its size, in the forces. With a 5 ton hoist, portable arc welder, wheel alignment kit and electronic wheel balancing machine most all repairs can be done on site. Unfortunately due to our location some 2nd line repairs and warranty work must be done in Prince Rupert.

It seems like our mechanic is one of the busiest techs in the business, well you got the message. A special note to any MCpl or Cpl Veh Tech, if you think you have what it takes to be a mechanic at CFS Masset, you may have your chance for a posting as both positions will be vacant during APS 90. All interested persons should advise their supervisors soonest. With my sales pitch completed I must say honestly a posting to CFS Masset will be one of your most challenging and rewarding experiences of your career.



# From Canadian Forces Training System

## The Downfall of a Chief Warrant Officer

by Catherine Lockhart

The Control Office Challenge began in 1985 when CWO Pankew arrived at Base Maintenance, Borden. Just prior to this Mrs Shirley Richard and Mrs Cathy Lockhart replaced a long series of term employees and their supervisor, Mrs Joyce Wall, was ecstatic. Immediately there was a marked improvement in the error rate. A letter of appreciation was received in 1986 and again in 1987 from Command congratulating the stats clerks on achieving the lowest error rate by volume of work orders for the CF; but CWO Pankew felt the stats clerks could do better than this and issued a CHALLENGE. If the Control Office received an EL1 for one month with a zero error rate then he would treat the stats clerks to lunch!

CWO Pankew probably thought that the Control Office staff could not pull it off and his wallet was secure. The Chief Warrant Officer was a tough cookie. He allowed no leniency for out



*A successful and enjoyable ending for all!*

of town vehicles with usage errors, or license plates lost, the CFR number changed in the data base before the old work orders had been inputted. All of you who work in a Control Office will know of the numerous possibilities of having an error! It has even been rumoured that the stats clerks and



*Control Office Staff, Base Maintenance, CFB Borden*

*Left to Right – Senior Stats Clerk: Mrs Wall, Stats Clerk: Mrs Richard. Control Officer: CWO Pankew, Stats Clerks, Mrs MacLeod, Mrs Lockhart.*

Major Parker (SO Maint, CFTSHQ Trenton) tried to bribe WO Dan Kilbride (DLES) into sending out a 'fake' EL1, but alas! to no avail.

Imagine Mrs Richard, Mrs Lockhart and Mrs Wall holding their breath each month in anticipation of a zero

error on their EL1. Finally the fruits of their labour were realized when the EL1 arrived in the mail for the period ending November 1988 with NO ERRORS out of a total of 604 work orders processed!

And so CWO Pankew, the time has now come for retribution.



# From The Canadian Forces School of Electrical and Mechanical Engineering

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## Change of Command Parade

by 2Lt S. Flight

Roughly every two to four years, a Change of Command between Commandants takes place in a ceremony of events. The Canadian Forces School of Electrical and Mechanical Engineering participated in such an affair Thursday 20 Jul 89 at CFB Borden which witnessed the passing of command from Colonel J.G.G. Nappert, CD, to Colonel V. Pergat, CD. In addition to a change of School Commandants, CFSEME's RSM also underwent a Change of Command from CWO G.L. Johnson, CD, to CWO J.J.E.M. Gauthier, CD.

A tremendous amount of work and effort went into organizing and preparing for this spectacular ceremony. A parade pamphlet was published which included biographies of the Reviewing Officer, BGen R.S. Dziver, CD, Base Commander CFB Borden; the outgoing Commandant, Col J.G.G. Nappert, CD; the incoming Commandant, Col V. Pergat, CD; the outgoing RSM, CWO G.L. Johnson, CD; and the incoming RSM, CWO J.J.E.M. Gauthier, CD.



### *Change of RSM.*

*Col. J.G.G. Nappert hands the RSM's regimental drill cane from outgoing RSM, CWO G.L. Johnson, to the new RSM, CWO J.J. Gauthier.*



*Col. J.G.G. Nappert's final march past as Comdt of CFSEME. Reviewing officer, BGen R. Dziver, CFB Borden B Comd receives the salute.*



In addition to the parade pamphlet, a History booklet was also designed. This booklet outlined CFSEME's history from 1985, just prior to CFSEME's split from CFSAOE (Canadian Forces School of Aerospace and Ordnance Engineering) right up to present day. Both the parade pamphlet and history booklet were distributed at the parade.

In attendance at the Change of Command parade were over 200 dignitaries, family members, co-workers, and friends of Col Nappert, Col Pergat, CWO Johnson, and CWO Gauthier. Among the distinguished dignitaries were the LEME Branch Adviser, BGen J.I. Hanson; Director General Management Services, BGen R.N. Fischer; and the Colonel Commandant of the Branch, Col (Ret'd) W.G. Svab.

Once the initial formal parade procedures were completed, Col J.G.G. Nappert conducted the RSM change of command from CWO G.L. Johnson to CWO J.J.E.M. Gauthier, as the troops and spectators proudly looked on. On completion of the handover, CWO Gauthier took his place on the parade square as Parade CWO.

Col J.G.G. Nappert then handed the CFSEME School pennant to the Reviewing Officer, BGen Dziver, who in turn passed it to the new School Commandant, Col V. Pergat. A formal signing ceremony was then carried out between BGen Dziver, Col Nappert, and Col Pergat. At this time, Col Pergat took over as the new School Commandant and continued with the parade. Both Col J.G.G. Nappert and CWO G.L. Johnson received the salute from CFSEME on the march past and the spectacular roll past. The roll past included vehicles as Iltis, MLVW with towed howitzers, AVGP, APC, M109 and Leopard MBT.

Upon the departure of the Reviewing Officer and the dignitaries, all guests and troops were invited to the new TOW Under Armour Building (TUA), soon to officially become the LeSoeur Brodie Bldg during the LEME Association Meeting here at CFB Borden in Oct 89, for a post-ceremony reception.

In addition to refreshments, there was a display of all the vehicles from the roll past available for viewing.

In one way, this memorable event for CFSEME was a chance for all to show their respect and admiration to their dedicated and competent outgoing Commandant, Col J.G.G. Nappert and RSM, CWO G.L. Johnson. During their tours with CFSEME, both gentlemen contributed greatly to the growth of the Branch and have upheld its outstanding traditions very successfully.

Congratulations and best wishes go out to Col J.G.G. Nappert on his course at National Defence College in Kingston and to CWO G.L. Johnson on his posting to CFB Edmonton.

On the other side of the coin, the Change of Command ceremonies were a chance to welcome both Col V. Pergat, as the new School Commandant, and CWO J.J.E.M. Gauthier, as the new School RSM.

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## The Craftsman Award

by 2Lt S.J. Flight

The Craftsman Award was donated to the school this year by Col J.G.G. Nappert, Comdt CFSEME. Sculpted in 1983 by André D. Gauthier, the Craftsman award is presented to the instructor who has displayed superior competence and dedication during their tour of duty with the school. In past years, the LCol Ralph Libbey award was used for these reasons, but it is now awarded to a member of CFSEME's support staff. With the Craftsman award, the school recognizes the outstanding contributions of instructors to the Branch.

It was difficult to choose an appropriate winner of the Craftsman award this year, due to the high level of instructing skills throughout CFSEME, but a final decision was made whereby two instructors received recognition for their excellent work. This year's recipients were Sgt J.A. Breau of Artisan Company and Sgt J.D.L. Vaive of Vehicle Company.

While at CFSEME, Sgt Breau was a Welding and Autobody instructor in Materials Platoon. He was an extremely dedicated instructor, often spending many after hours tutoring students in both official languages. Sgt Breau was recently promoted and posted to 5 Svc Bn Valcartier.

Sgt Vaive came to CFSEME as a MCpl in August 1985 and was employed as an instructor with LAFV Section in Vehicle Coy. After two years, Sgt Vaive moved to EEM/AAGSE as Section 2IC where his natural teaching abilities, excellent knowledge of heavy equipment and leadership has earned him recognition as a valuable instructor.

Congratulations to Sgt Breau and Sgt Vaive!



# The Lieutenant-Colonel Ralph Libbey Award

by 2Lt S.J. Flight

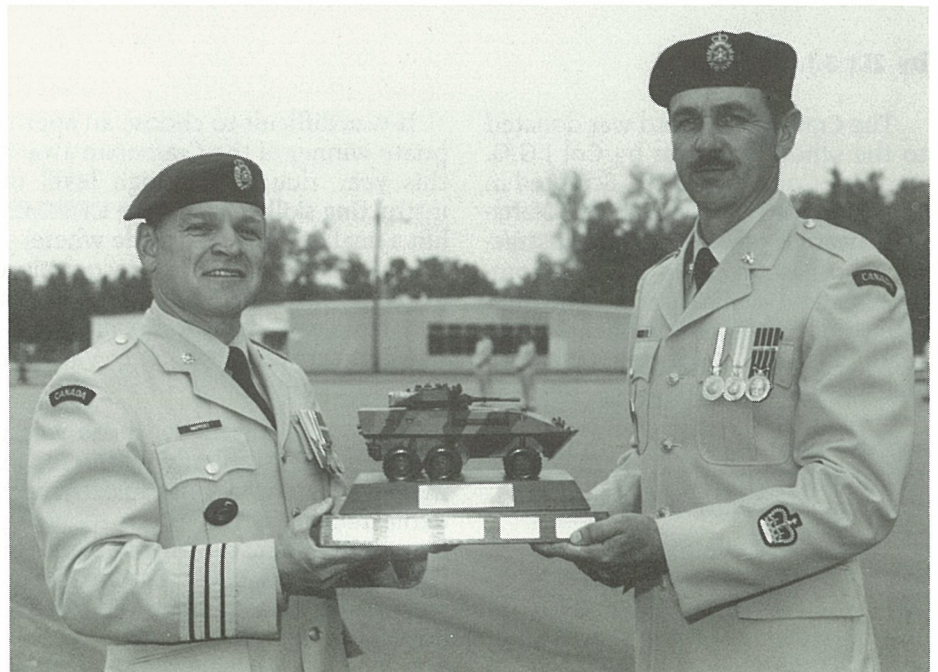
LCol Ralph Libbey was the project manager of the AVGP and this trophy was donated to the school in May 1987 in memory of LCol Libbey and his work. This award was originally given to an outstanding instructor of the school, but after two years, it is now presented to a member of CFSEME's support staff. The LCol Ralph Libbey award recognizes the tremendous effort and contributions of the support staff who often go unnoticed.

This year's recipient was WO N. Belyea from Vehicle Company. Since July 1985, WO Belyea has been an instructor, Section Supervisor and OIC Trg Resources of Vehicle Company. Through his excellent knowledge, experience, and outstanding support WO Belyea contributed greatly to the company's overall effectiveness and to the improvement of the trade.

Congratulations WO Belyea!



*Sgt J.D.L. Vaive accepts the Craftsman award from the out-going comdt of CFSEME Col J.G.G. Nappert. Sgt J.A. Breau was in Valcartier at the time the award was presented.*



*WO N. Belyea receives the LCol Ralph Libbey award from Col J.G.G. Nappert, outgoing comdt CFSEME.*



# Administration at CFSEME

by 2Lt S.J. Flight

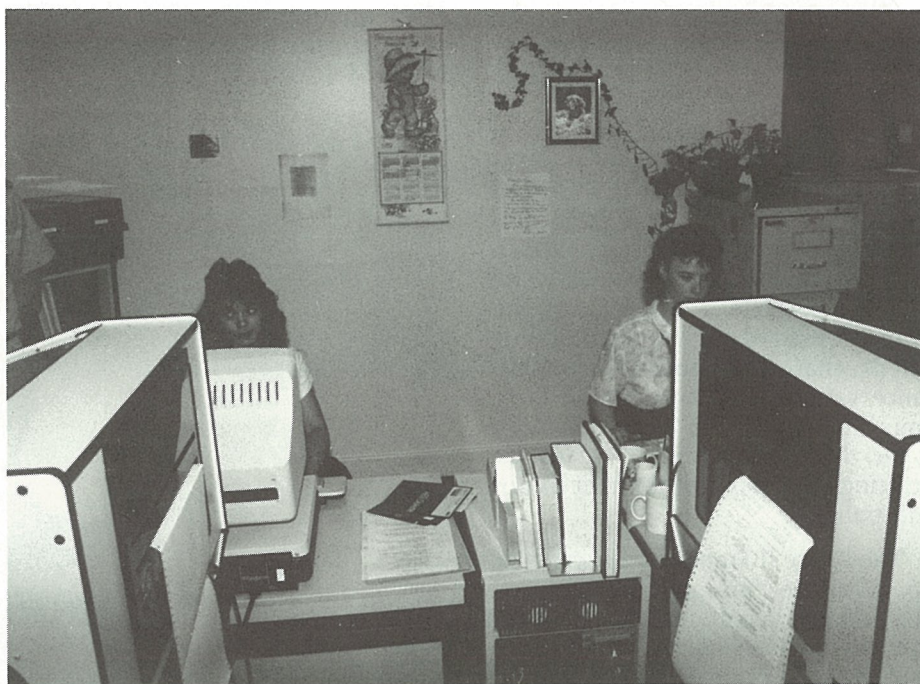
One of CFSEME Headquarters' busiest organizations, the administration of the school can be quite a tasking. Without it, the vital work done at CFSEME HQ would grind to a halt.

The administrative organization at CFSEME is headed by the Adjutant, Captain A. Von Wiedner, a Captain of the PAdm classification. The Adjutant is the Commandant's Principal Staff Officer and works directly with the Commandant on a day to day basis.

The role of the Adjutant is to provide general and personnel administrative support to staff and students. His charge consists of 250 military and civilian permanent staff, (of which 22 are permanent administrative staff) and a course load of 1600 students in 171 serials representing 75 separate courses annually. Within the Adjutant's chain of command there is a Chief Clerk, a school orderly room, a central registry and a variety of other personnel necessary in the efficient administration of the school.

As Chief Clerk, Sgt Fortin is responsible for daily personnel/general administrative matters and is responsible for the career development, and technical direction to all Adm Clks within CFSEME.

The orderly room is to be supervised by a Cpl Adm Clk who is responsible for daily routine administrative matters and student control. The conduct of routine daily personnel/general administrative matters such as: postings, promotions, security clearances, in/out service course loading, pers, physical security, barrack damage reports, duplicating services, counter inquiries, typing services, and operation of facsimile machine providing service to the whole of CFB Borden Southside, is handled by a Cpl/Pte Adm Clk and a ST TYP 02. Together, Cpl J.J. Fortier and Pte S. Chartrand handle this area of administration.



*Shane MacAdam and Kimberly Russell hard at work in CFSEME's WPC.*

In the central registry, Cpl H. Boivin, and Adm Clk, is responsible for recording all incoming and outgoing correspondence, mail distribution and redistribution, and maintenance of Base/School files.

As noted previously, CFSEME has a considerable number of students attending courses; up to 400 at any one time. In order to maintain the number of students and other personnel, Pte J. Leblanc, and Adm Clk, is responsible for completing reports and returns on PATs and students, processing re-assignments, releases, RTUs, recourses, and controlling the receipt and dispatch of student documents.

To facilitate the effective operation of the school, CFSEME has a word processing centre equipped with AES 7300 multi-station word processors. CFSEME's WPC is primarily in support of standards and is manned by two ST OCE 01s. Presently, Laureen Saunders, Kim Russel and Shane MacAdam work in CFSEME's WPC.

Each of the Companies within CFSEME have their own Coy OR headed by a MCpl Adm Clk and are supported by a ST TYP 02 or a Cpl/Pte Adm Clk. Each Company Orderly Room provides company level support for staff and students with respect to central registry, training records, general typing support, travel arrangements and other related office work.

Although the administration within a training establishment can be overwhelming at times, here at CFSEME, a finely tuned adm organization conquers these taskings quickly, effectively and most importantly, with a smile!



# LEME Phase III Challenge

On the afternoon of June 23rd, CFB Borden's Confidence Course was the scene of perhaps the most exciting sports spectacle in NATO's history: the Annual LEME Officer Phase III Challenge. Three teams, two from Phase II and one from Phase III, consisting of 12 members; each ran the standard 18 obstacles and then completed the "mystery" obstacle which was conjured up by Phase III. The mystery obstacle, a tradition of the event, consisted of each team pulling a Lynx (that's an armoured reconnaissance vehicle, and not a small furry animal for all you Air Force and Navy types) through a distance of 50 feet by utilizing the proper equipment (ropes and pulleys).

The Phase II Franco serial was first up. With the "no longer a mystery" obstacle seemingly solved (at least mentally) and bubbling with enthusiasm and prepared excuses, they launched themselves into the course. Their performance on the first 18 obstacles (9.56 min) left spectators in some doubt as to whether they had actually done it before! Their sparkling performance was concluded with only a few minor problems with the Lynx pull, and when they finally crossed the finish line in a total time of 25.49 minutes the hush that had initially fallen over the crowd had turned to a snore.

The second phase II team crawled through the first 18 obstacles in a time of 10.13 minutes. With the acquired knowledge of how *not* to conduct the Lynx pull; they managed to complete the whole course in only 18.5 minutes.

Then it was the Phase III's turn. Led by the most competent Franco leader since Montcalm, Dominique "Silver Bullet" Brassard charged his team through the first 18 obstacles in a record 8.04 minutes. The Lynx pull proved to be only a three minute delay to the ensuing "beer up" but was helpful in working up a bit of a

thirst. The Phase III's total time of 11.46 minutes was more than adequate in order to make them the winners of the coveted Crossed Wrench

Trophy, which was presented to "the Silver Bullet" by Major Don Tiller, OC Regt Coy, CFSEME, later that afternoon at the Waterloo Mess.



*The second team from LEME Phase II conquer the 12 foot wall.*





*"The Victors"*

Front (L. to R.) Alex Vervuurt, Eric Dube, Dominique Brassard  
Back (L. to R.) Myriam Sanchez-Maloney, Glen Schlyter, Bob Eddy, Angelo Battison, Daniel Lefrançois, Michel Barrie, Capt Yves Payette, Dean Price, Stuart Inglis and Michel Lefrançois.



*LEME Phase II's courageous attempt at the "Mystery" obstacle.*



*LEME Phase III's proud team captain, OCDT Brassard, received the Crossed Wrench trophy for their victory.*



# CFSEME Scores Big at Base Borden Sports Day — 31 May 1989

The students and staff of CFSEME represented the EME Branch in fine fashion by out-performing all the other Schools represented at the recently held Base Borden Sports Meet. CFSEME came first in the Tug-of-War, Over 35 Year Old Male 6 km Cross Country Run Team event, and Under 35 year Old Male 6 km Cross Country Team event. In the Track events, CFSEME finished a close second, due in no small part to the efforts of W Tech L QL3 8901 and LEME Offr Phase II.



*Small Arms W Tech(L) instructor Sgt Réjean Tessier pulls as part of the first place Tug-of-War Team.*



*Pte Tim Angerman, W Tech L QL3 8901, wins first in his 200 m race.*



*The gold medal winning 6 km Cross Country Under 35 Year Old Team were: (L-R) OCdt Irvine, OCdt Arsenault, Capt Blake-Knox, Capt Carter, and OCdt LaFrance.*



# Ammunition Section

written by MCpl S. Bergeron and MCpl K. Zufelt

I am certain there are those of you who are not terribly familiar with our trade, I will endeavour to provide a brief (and I do mean brief) history of our trade, as well as a general overview of our day to day job and some of the work that we here at the CFSEME Ammunition Section are responsible for.

Prior to joining CFSAOE in 1972, the Ammunition Section was a part of the Royal Canadian Ordnance Corps School and was located in Ste Therese (Camp Bouchard), Quebec. When Military Occupation Codes (MOCs) were being handed out, our technical responsibilities were emphasized and Ammunition Technicians became MOC 423 and were considered part of the LORE Branch (hence the move to CFSAOE and not CFSAL). By the mid 70s, with more emphasis being placed on our logistical capabilities, our trade joined up with the Logistics Branch and we have occupied MOC 921 since that date. During the 1985 reorganization of CFSAOE into CFSEME and CFSATE, there was some consideration that we would join CFSAL and all logistics training would be done in one school. This was not to be and we kept our proud and long standing place in the Explosive Platoon, CFSEME where we can still be seen, amidst a sea of blue and gold LEME hatbadges, proudly representing the Logistics Branch on LEME parades.

Our section is currently located just outside of Canada's largest Army ammunition depot (Canadian Forces Ammunition Depot, Angus). Here we conduct training to all qualification levels of Ammunition Technicians (ATs) as well as running courses for various other trades. Our trade courses run from 113 training days for a QL3 and 122 training days for a QL5 to six months of home study course for QL6A and 75 training days for the QL6B.



*Acceptance proof of new anti-tank mines*





*Disposal of Obsolete Ammunition*

One course which we run that may be of interest to the Weapons people reading this article is the Basics of Explosive Safety (BES) course, which we try to run two a year of. This course is open to personnel of various trades and possession of this qualification provides tradesmen with a knowledge of common use ammunition items, allowing them to correctly identify, receive, issue and store their units holdings, perform monthly inspections of their units facilities and conduct explosive safety programs at their unit.

Although we have always been responsible for the safe transportation of ammunition and explosives, 1987 brought the first Dangerous Goods

Certification (3K) course to be taught here. This qualification enables up to not only ship ammunition and explosives but, all forms of dangerous goods. When we took on this course to train our personnel in the aspects of handling, offering for transport and transporting dangerous goods, CFSTM Edmonton, which has been running this course since 1984 and continues to do so, was very responsive in supplying us with the needed training assistance required to ensure that the course was taught properly. It is estimated that four courses in 1988, 89 and two courses in 1990 will finally qualify all Ammunition Technicians.

Supplying ammunition to the user units of the CF is only one of the tasks that ATs are trained to perform. Due to the obvious requirement for the upmost in safety, ATs must be made aware of all the aspects associated with ammunition and explosives. These aspects include the proper method of issuing, receiving, repairing, refurbishing, disposing, destroying, testing, storing and transporting all items of ammunition in use by the three environments of the CF today. We also learn the hazards and safety precautions required, how to conduct range clearances and ammunition accident investigations, the requirements for unit and base ammo facility inspections as well as the myriad of other administrative tasks required to deal with our commodity. We also learn the proper procedures required for Explosive Ordnance Disposal (EOD). This is not to be confused with the "Bomb Squad" types who undergo special training required to deal with Improvised Explosive Devices (IEDs). Although all QL5 Ammunition Technicians are EOD qualified, it is only a portion of their training and employment. To consider an AT as strictly EOD is similar to saying that a Supply Tech only counts socks.

Our trade currently consists of 178 ATs and 48 ATOs. With such a small trade (and the only all Army trade in the Logistics Branch) it is very easy to see why we are a close-knit group. We are trained to provide the best possible service in the most dangerous commodity in use today, so if you ever have a question about ammunition — give one of us a call. We guarantee satisfaction.

## CFSEME Stock

by Capt Joe Deano

In the fall of 1987, I was stunned by a phone call indicating that a racing car on a trailer was sitting in Hangar 18. The caller was curious to know what kind of training aid this was and why it disappeared on Fridays and reappeared again on Mondays. As acting OC of Veh Coy at the time I had heard

rumblings that a race car was being put together so I decided to investigate.

Upon my arrival at the Hangar; there sat a blue race car with the number 18 boldly painted on both sides. It was in sad condition, probably the aftermath of one of the Friday to Monday episodes. I was soon to find

out that this was a special project created by WO Dave Saunders the NCO i/c of Engine Rebuild Section and his staff. His love of racing and the fact that he was a driver, prompted Dave to instill a challenge of doing something different by his instructors and see how good they really were.



This number 18 was a proto-type of what was to become a truly dedicated effort. In the fall of 1988 WO Saunders approached his staff during a coffee break and stated, "How about building a really good race car for next season." The staff readily accepted the challenge.

In November 1988 the birth of car #40 began. The team, as they were now called consisted of driver – WO Dave Saunders, Crew Chief – MCpl Dan Boivin, Pit Crew – Cpl Bob Barton and MCpl Laurent Levesque. They stripped a 1976 Pontiac LeMans down to the bare frame. During this process a sum of \$2.38 was found; they had their first race earnings. The frame was sandblasted and a roll cage built and installed by Timmons Manufacturing, a race car builder. It took approximately 4½ months of nights and weekends to prepare the frame, install the suspension and to install the roll cage.

While the car was being assembled their pride and joy; the engine, was being built. The team used a 350 cu. inch short block engine and bored it out .30". They used 10½:1 top racing pistons; 1.94 small combustion chamber heads creating a 300 HP engine. The camshaft was an Isky 505T with solid

lifters and Isky racing springs. The rest of the engine was balanced by Northern Performance of Barrie, Ontario.

When it was all assembled an awesome engine had been created. Unfortunately the team did not have a dynamometer to check the actual horsepower available, but driver Dave called it a 'Rocket'. With any good engine you must have a matching transmission. With the help of CWO Gauthier and his connections in the race world a 2-Speed power glide transmission was properly set up and tuned for racing.

By March 1989 the team started to panic as it was only 6 weeks to opening race day and they weren't ready. Working 3-4 nights a week, all remaining parts were installed. A shroud and overflow can was constructed, a fuel cell installed, the dash re-constructed (with the help of some friendly Mat Techs) and the electrical wiring was hooked up and secured to prevent shorting out.

It was now countdown time as there was only 2 days left before the first green flag was dropped. Frantic and scrambling around to meet the deadline, the team only had time to primer coat the car, get it weighed, do final hook-ups and had everything

ready to go 1½ hours before race time. The team rushed to the race track at Sunset Speedway in Barrie in their grey primer car only to have the race evening rained out. Needless to say the team was not impressed with mother nature. However, they now had some breathing room for next weeks race program.

The team took advantage and completed the car with a good paint job including lettering and the #40. All was in readiness after months of hard work and now for the true test of LEME Veh Tech ingenuity. On the second opening day and their first race number 40 left all others in it's dust and won the Street Stock Division. Amazingly, it was done on 7 cylinders and a broken distributor shaft.

The climax of the short racing season saw the team and its new race car at the mid-season Championships where they won their first heat, came second in the trophy dash and won the 35 lap main feature race. A definite highlight to their season and amateur careers. The short season and disappointment comes with WO Saunders the driver and owner of the car being posted to Suffield in August. It was decided at the time to sell this newly created LEME mean machine and retire the team.

The team gained a lot of valuable experience with this project and could not do it all without a lot of help from various people and sections within CFSEME. The team would like to acknowledge all those that assisted in making their dream possible. CWO Martial Gauthier, MWO Frank Mezatesta, Electrical Section, Brakes & Steering Section, VMT & Servicing Section, Mat Tech Platoon and last but not least the OC Veh Coy and the Comdt of CFSEME.

The staff of Veh Coy wish WO Dave Saunders the best of luck in Suffield and hope that his dream of becoming a professional race car driver comes in the near future.



*CFSEME's proud team shows off their midseason championship trophy. Standing (left to right): MCPL J.L.J. Levesque, WO D.R. Saunders. In front (left to right): Cpl R.H. Barton, Mcpl J.D. Boivin.*



# From The Canadian Forces Technical School

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## 20th Anniversary Celebrations

by Capt J.G.L Vachon

To commemorate the school's twentieth anniversary, the ETFC Recreation Committee, presided by WO J.E.R.P. Laurent (MOC) 411 had organized an evening featuring a casino and a play, followed by a dance.

The casino was a very popular activity. Thousands of dollars in "**phoney money**" changed hands until early the

following morning. However, as usual, the bank was the biggest winner.

A **skit**, presented by the instructional staff, highlighted the historical moments and achievements of the School.

Following an hearty meal, the dance proved to be, for many, an

excellent mean to metabolize the food and thus releasing a phenomenal amount of energy.

This anniversary was also commemorated by the production and the sale of a souvenir button which was the main source of revenue to offset the cost of the evening activities.

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## English Speaking Students at Mechanical Company

### *A First at Technical School!*



Lieutenant-Colonel P.D. Kerr presenting the honour trophy to Pte J.C. Graveline. This trophy is presented to the student who, from all points of view, was noted for the excellence of his behaviour, his attitude, his contribution and his cooperation with his classmate of the 8808 course.

The first group of English students, serial 8808, arrived to take their Vehicle Technician QL3 training in English at Mechanical Company. This was for both the instructors and the students an opportunity to live new experiences.

Being a French unit, it meant that prior to the students' arrival at the School, the majority of administrative documents had to be translated including the Fire Prevention Orders, Unit Routine Orders, lesson plans etc...

Following is a summary of the students' impressions and comments:

*"When we arrived at CFB Saint-Jean, we didn't know what to expect. At first, we had to learn to "navigate" in this huge building (the megastructure) and we also had to overcome some communication problems, such as getting used to the prominent French accent of the instructors not to mention the military drill in French! Still, we rapidly adapted ourselves.*

*To succeed, we had to learn to work as a group and be part of the*





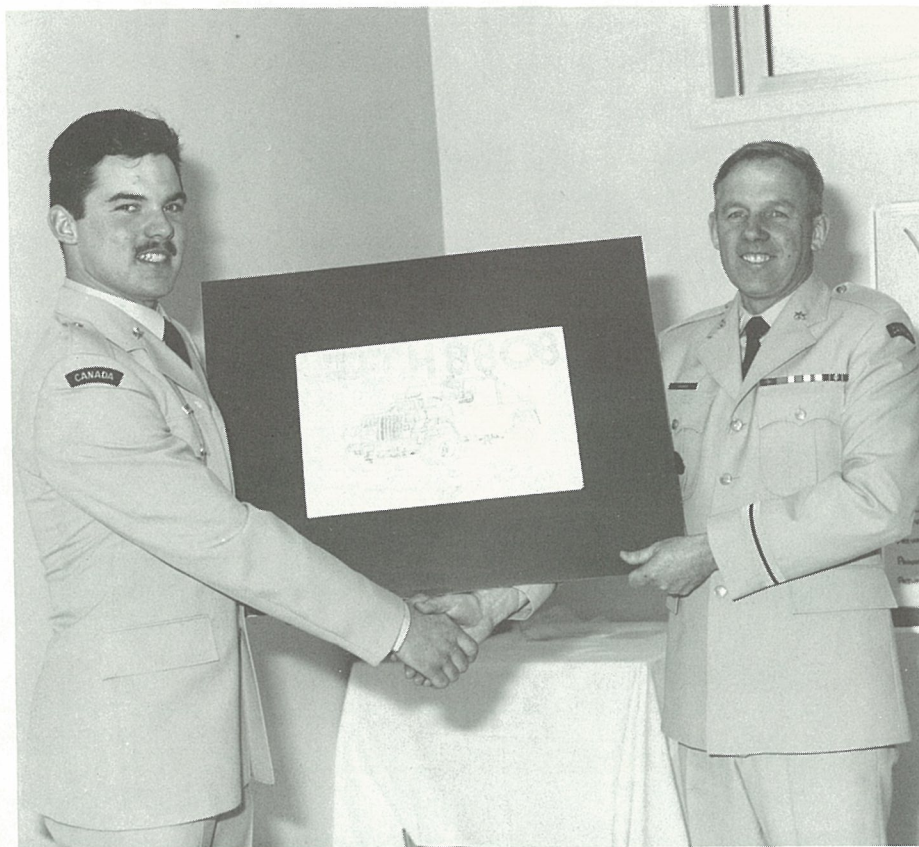
*Pte J.G. Koronko receiving from Lieutenant-Colonel P.D. Kerr the crest for being first of his course. This crest is presented to the student who has achieved the highest theoretical and practical average, obtaining a combined average of 92%.*



*Lieutenant-Colonel P.D. Kerr appending his signature to the guest book, during his visit at the Technical School, on the 10th of May 1989, as honour guest for the graduation of the vehicle technician course 8808.*

*team. After a few altercations with members of the French students group, we were able to fully integrate ourselves into the various base and school social and recreational activities.*

*In general, we believe that having taken this course at CFB Saint-Jean was an asset to everyone as well as a positive experience and we are now much more aware of what the Province of Québec is and what it has to offer."*



*Capt J.G.L. Vachon receiving from the author, Pte A.D.P. Dagenais, the sketch representing his group.*



*Major J.G. Dessureault presenting the Elite Trophy to Pte V.P. Lively. This trophy is presented to the student who was first of 48 (best overall performance) during the common Land Electrical Mechanical Engineering training phase.*





*Course 8808, the first English vehicle technician course at the Technical School CFB Saint-Jean. This picture was taken during their graduation ceremony on the 10th May 1989. From left to right: Pte J.C. Graveline, Pte D.G. Martens, Pte D. Conlin, Pte G.A. King, Pte R.D. Mears, Pte J.C. Koronko, Pte D.J. Bergeron, Pte A.D.P. Dagenais, Pte F.W. Davis, Pte V.P. Lively.*

## Militia Training

This summer the Mechanical Company has, just as it has for the past three (3) years, given to the Militia personnel the Vehicle Technician R 411 and the Weapon Technical (Land) R 421 Q1 1 and 2 training.

To complete this task, the school had retained the services of WO D. Casoni, WO M. Beaudoin and of nine (9) other instructors all from the 51st and 55th Services Battalions.

Upon their arrival they quickly integrated themselves in our group. They first began by getting ready for

teaching, revising lesson plans, developing students' homework, study packages and various students handouts.

The forty-one (41) students who graduated, having completed either QL 1 and 2 training in their respective trade, have easily adapted themselves to the School's environment.

They showed a remarkable interest for these courses. They also applied themselves in their studies and attained good results.

Because of the doubling need of the available School facilities, classes were conducted between 15h30 and 23h00.

This evening schedule was an acceptable compromise and was appreciated by both the instructors and the trainees.

During this 20th anniversary celebration, in addition to carrying their normal duties, the members of ETFC have taken the time to appreciate the excellent work done by their predecessors, evaluated the impact of the progress in technology on the current training and finally anticipated the future requirements of the School.



# From The Air Defence Artillery School

## McNaughton Building

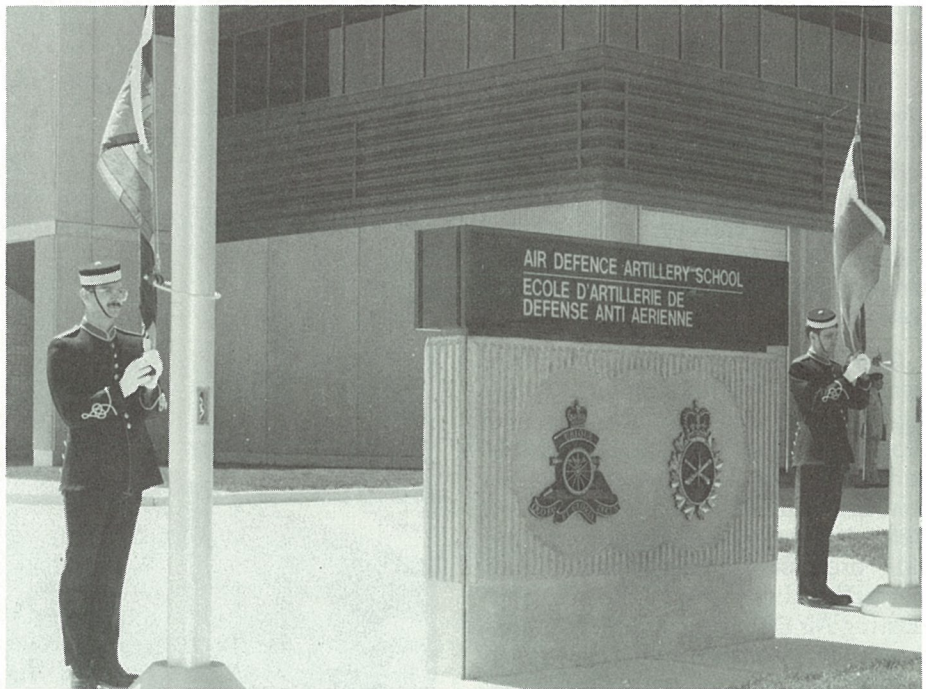
by Capt S. Marr

On 29 June 1989 the Honourable Andrew George Latta McNaughton, who served in both the Land Electrical Mechanical Engineer and Royal Canadian Artillery Branches, was further honoured as one of Canada's most distinguished military figures by the Air Defense community at CFB Chatham, New Brunswick.

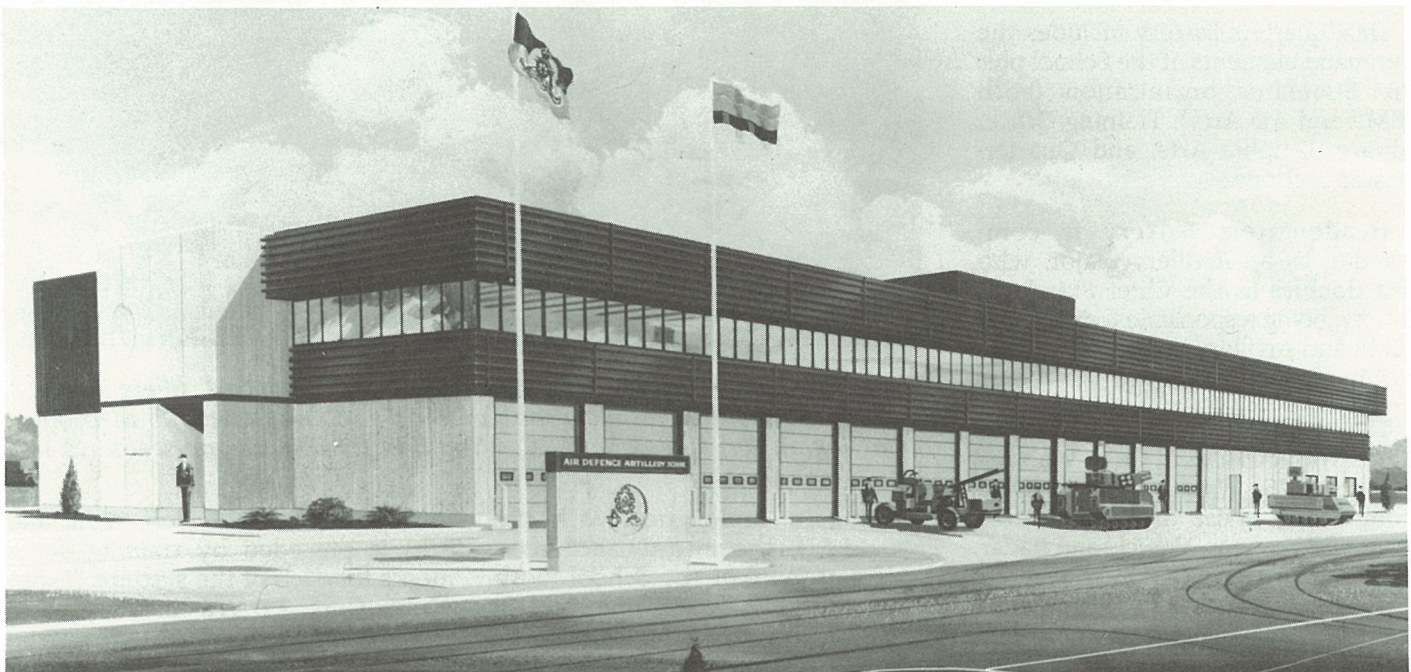
### McNaughton Building

The Air Defence Artillery School's new McNaughton Building inauguration ceremonies was attended by the Chief of Defence Staff, General P.D. Manson, the Royal Canadian Artillery Colonel Commandant, Lieutenant-General (Ret'd) W.A.B. Anderson; and the Land Electrical Mechanical Engineer Colonel Commandant, Colonel (Ret'd) W.G. Svab; and members of the McNaughton family.

The ceremonies consisted of several events including a parade, the Colonel Commandant's addresses, and affixing the Royal Cypher to the Twin-35mm



*The flag raising ceremony raised the RCA and LEME flags, side by side, at the entrance of the Air Defence Artillery School's McNaughton Building.*



*Official opening of the McNaughton Building Air Defence Artillery School, C.F.B. Chatham, 29 June 1989.*



Gun, the raising of the LEME and RCA flag(s), the unveiling of General McNaughton's portrait (which previously graced the hall of the LEME School), and the official opening of the Building which was followed by an open house, with numerous displays and a reception. All aspects of the ceremonies stressed the dual role of the School, which is to conduct the individual training of both LEME and Artillery personnel on Air Defence Artillery equipments.

The Air Defence Artillery School (inaugurated 11 Sep 85) consists of four Batteries and a Workshop: Headquarters Battery, Maintenance Training Battery, Artillery Training Battery, 4 Air Defence Battery, and 210 Air Defence Workshop, with an authorized strength of 148 all ranks and seven civilian staff.

The McNaughton Building houses Headquarters and Maintenance Training Batteries and 210 Air Defence Workshop. The building acts as the nucleus for the Air Defence Community, in which, the Maintainer and Air Defender work hand-in-hand to provide professional maintenance and instructional services for the new and existing Air Defence equipments. The modern maintenance and instructional facilities will enhance the ability of the maintenance instructors to conduct effective maintenance courses.

### Headquarters Battery

Headquarters Battery includes the command elements of the School plus the Standards organization (both LEME and AD Arty), Training Office, Library, Graphic Arts, and Quartermaster sections.

Headquarters Battery is commanded by an Artillery Major, who also doubles as the Chief Standards Officer, being responsible for both the LEME and Artillery training standards within the School (Figure 1).

The Maintenance Standards Officer directs the activities of three Warrant Officers (FCS, Wpns and Rdr) who monitor and revise the Fire Control Systems, Weapons, Vehicle and Radar maintenance courses for the three new LLAD equipments (the Twin-35mm Gun, ADATS and Skyguard systems) in addition to the existing Blowpipe Maintenance Training Course for the FCS trade.

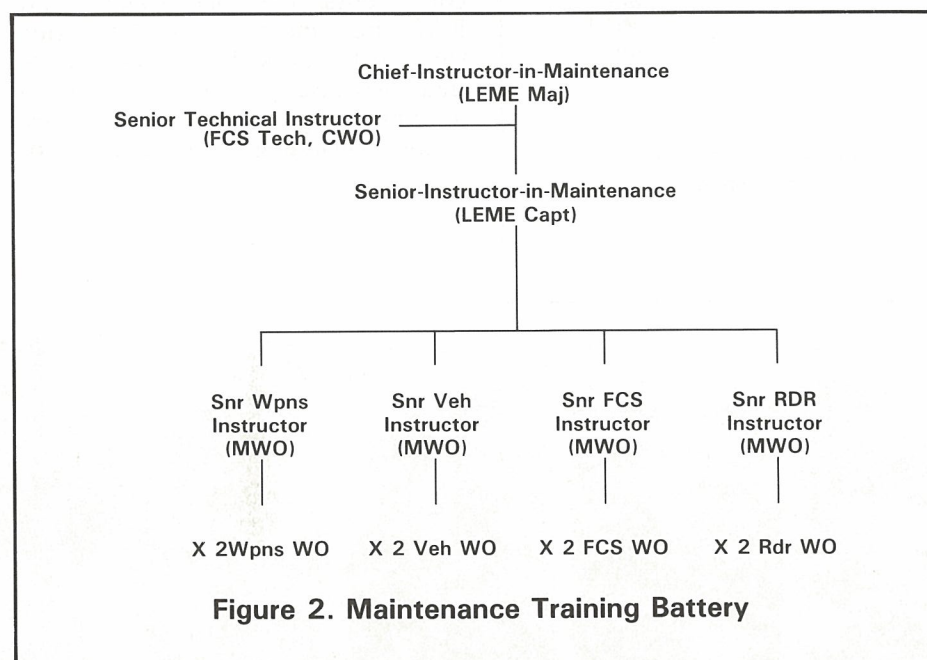
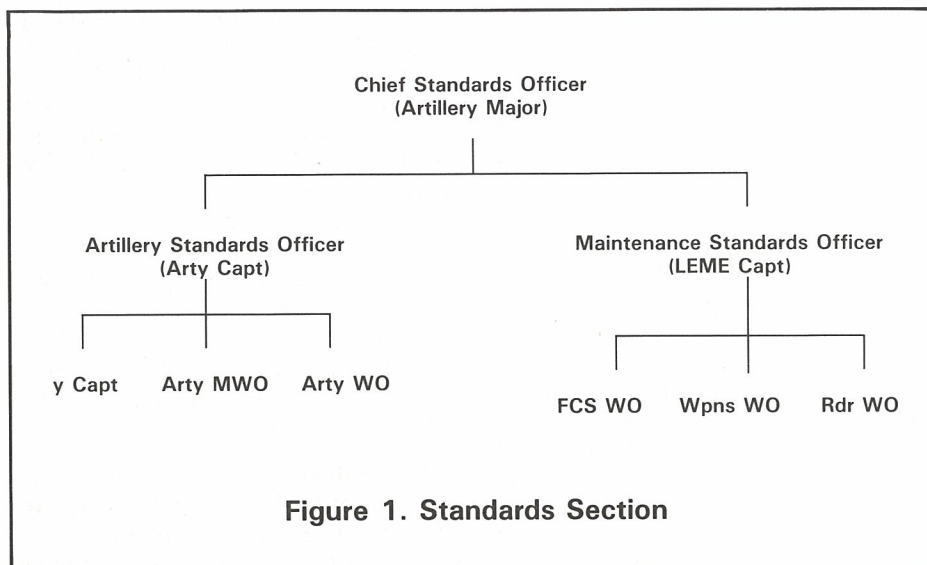


*Colonel W.G. Svab addresses the parade at the Air Defence Artillery School's McNaughton Building inauguration in Chatham. CDS, General P. Manson (reviewing officer) and Comd CTC, BGen L.W. MacKenzie are seated to the rear.*

Acting in conjunction with the PMO LLAD, the maintenance standards personnel of the School (both LEME and CELE) are involved in reviewing and suggesting changes to the training documentation which is received from the prime contractor, Oerlikon Aerospace (OA). Each main-

tenance course (FCS, Veh, Wpns and Rdr) is preceded by training documents for each of the systems (Twin-35mm Gun, ADATS and Skyguard) which must be thoroughly reviewed to ensure the current and future effectiveness of the maintenance training.





	Total Courses	Total Students	Course Duration
Mechanical Maintenance (Wpns Tech)	3	21	6 wks
Vehicle Maintenance (Veh Tech)	6	33	2 wks
Optical Maintenance (FCT(O) Tech)	1	8	2 wks
Electronic Maintenance (FCT(E) Tech)	5	40	6 wks

**Figure 3. Twin 35mm Gun Maintenance Courses**

## Maintenance Training Battery

The Maintenance Training Battery (Figure 2) is commanded by a LEME Major who is the 'Chief-Instructor-in-Maintenance' for the School. The remainder of the Battery consists of LEME and CELE personnel who fulfill instructional roles and also work closely with standards personnel to recommend changes to the LLAD maintenance courses, which are being conducted as part of the LLAD project at the Air Defence Artillery School.

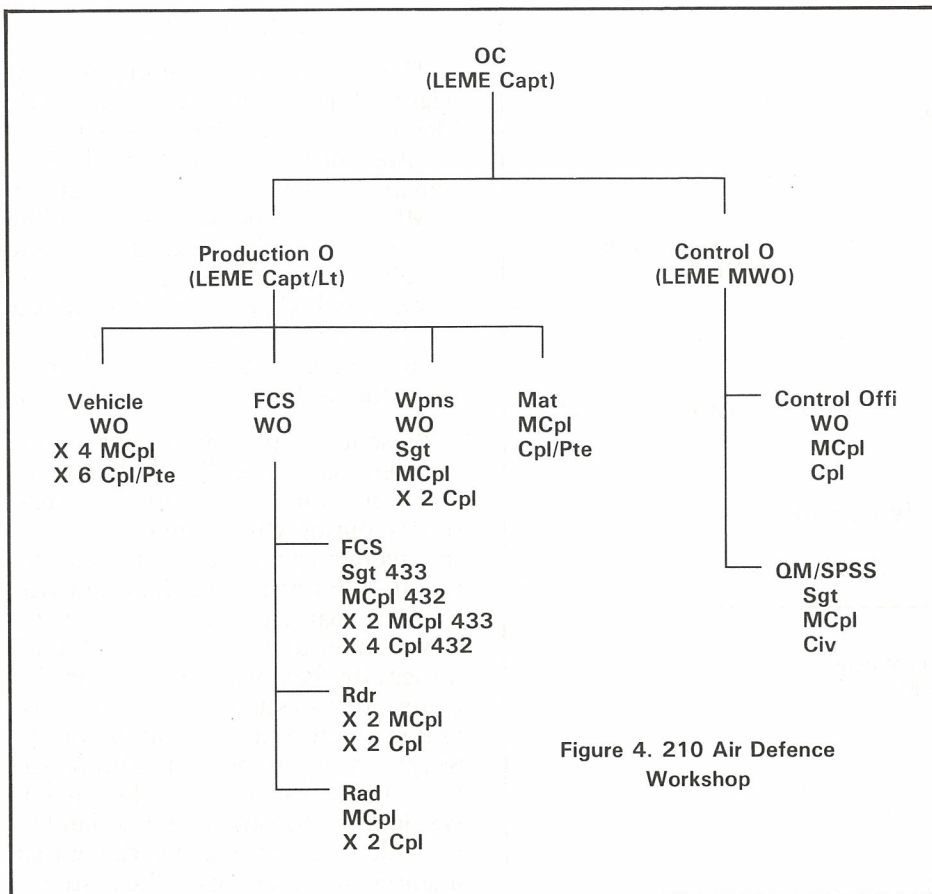
Presently, the Twin-35mm Gun maintenance courses (Figure 3) have all but concluded their introductory serials, during which the OA instructors were responsible for the instructional workload. The Maintenance Training Battery's instructors have now undertaken the instructional duties after having participated in the course; first as students, then as assistant instructors. In preparation for the Skyguard equipment maintenance training the instructors of the Battery will journey to Zurich, Switzerland in the fall of 89 to receive the initial maintenance training on the systems.

The employment and career opportunities within the Battery are both numerous and challenging for both the Sr NCO and Jr Officer as the new LLAD equipments are fielded and the maintenance courses are developed to a level which matches the technical sophistication of the new Air Defence systems.

## 210 Air Defence Workshop

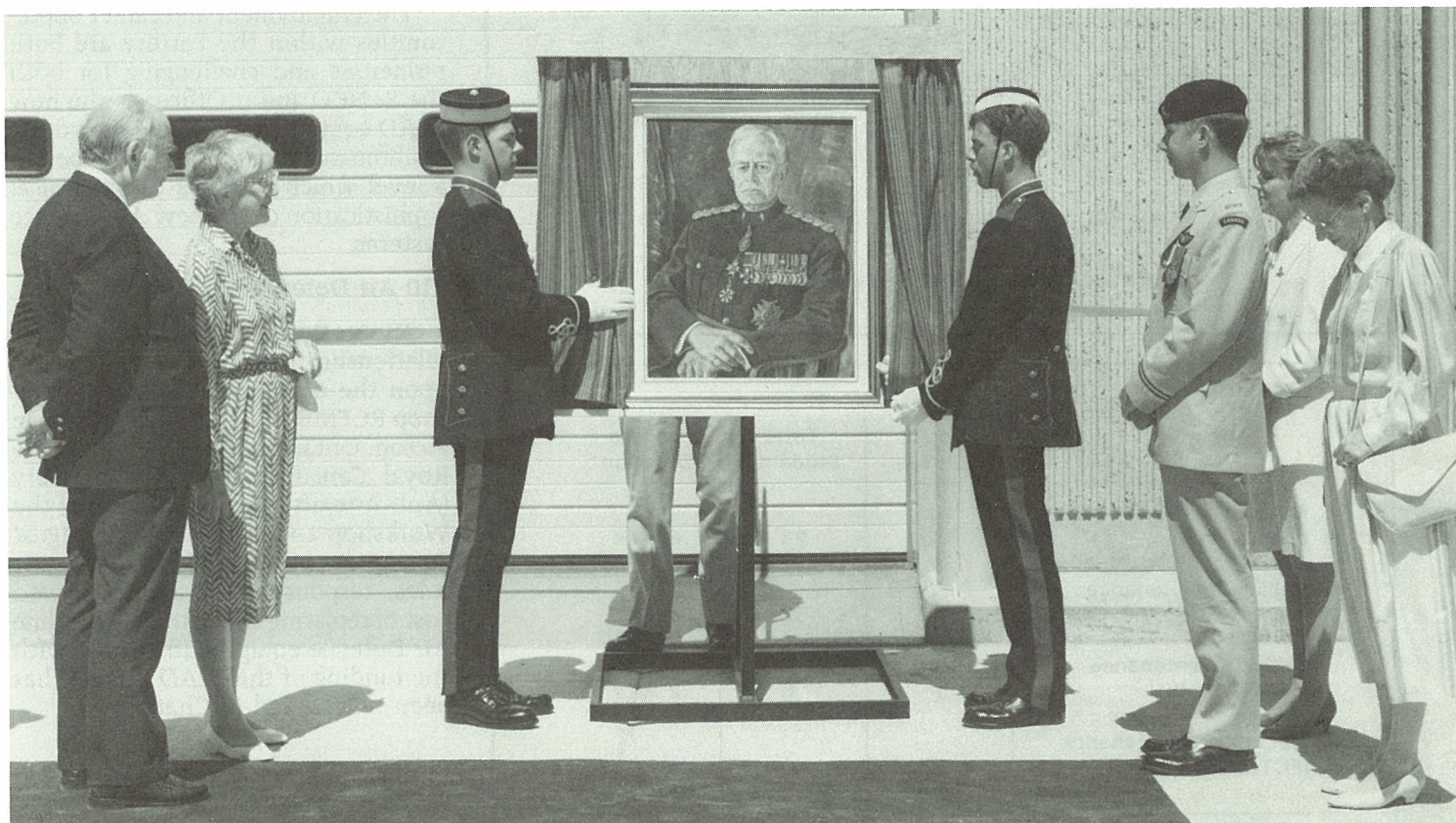
210 Air Defence Workshop's unique relationship with the School is based upon the now disbanded 210 Workshop RCME (opened 12 June 1950) in Picton, Ontario; which supported the Royal Canadian School of Artillery (Anti-Aircraft). The disbanding of the Workshop and School, on 15 August 1960, was a result of the changing roles, responsibilities and perceived cost of replacing the outdated wartime Air Defence equipment; which, with the funding of the LLAD project, has been reactivated in Chatham.





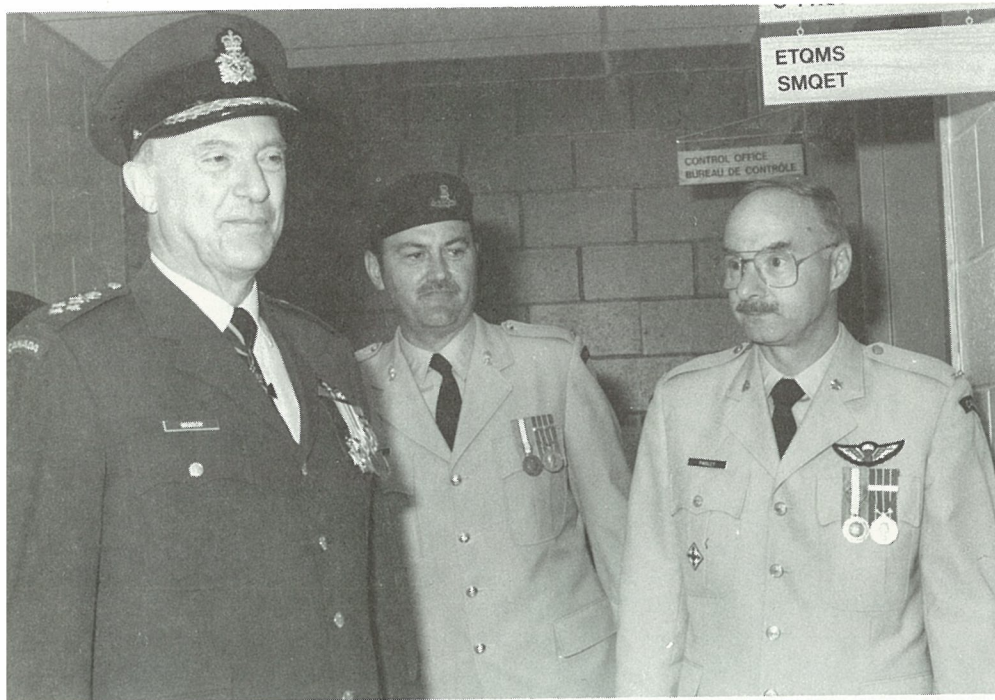
210 Air Defence Workshop (Figure 4) is tasked with all 'first line' maintenance operations of the School's equipment, plus those 'second line' repairs on prime mission equipments (ie: Twin-35mm Gun, ADATS, Skyguard and Blowpipe Systems and APCs) belonging to the School and 119 Air Defence Battery. The Workshop is also tasked to support 119 Air Defence Battery, when they are deployed as part of CAST or AMF(L), by sending a detachment to supply second line maintenance for the ADATS systems.

The staff of the Air Defence Artillery School are in a unique position to influence the future of maintenance and operator training for Air Defence equipments. The maintenance staff fulfill the important role of ensuring the effectiveness of the maintenance training courses (present and future) by recommending improvements to course content, including the requirement for



*The McNaughton portrait was unveiled by Maj A.B. Leslie (RCA). The McNaughton family members looking on are; Mr. and Mrs. Calvin Sykes (daughter and son-in-law) to the left, and Maj Andrew Leslie (grandson) and Mrs. G.M. Leslie (daughter-in-law) to the right.*





special tooling and test equipment plus examining and recommending (to the Project Management Office) changes in maintenance procedures and equipment design. This combination of a newly inaugurated School, located within the modern McNaughton building while being responsible for training on state-of-the-art Air Defence equipments, presents a variety of challenging employment possibilities which are seldom found in today's maintenance world.

◀ CDS, Gen P.D. Manson (left), AD Arty School Comdt LCol J.L.H.L.P. Boucher (center), and OC 210 AD Wksp Capt. E. Paisley (right), tour 210 AD Wksp's new facilities as part of the open house and demonstrations within the McNaughton Bldg.

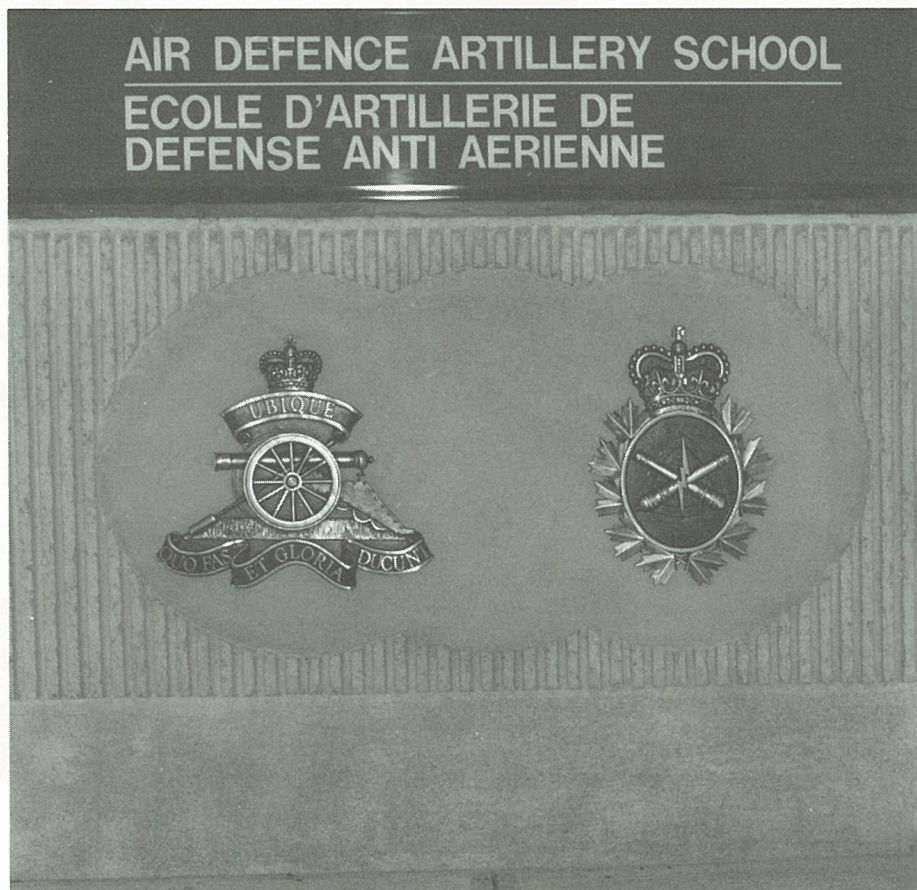


Col (R) W.G. Svab signing the AD Arty School guest book, witnessed by D Comdt, Maj A.K. Thurrott (right), and School RSM, CWO P.D. Conrad.





Col Comdt Arty, LGen (R), W.A.B. Anderson (with mallet) and Col Comdt LEME, Col (R) W.G. Svab reenact the affixing of the imperial cypher to the Twin-35mm Gun. Dressed in period costume for armourers is WO J.F.A.R. LeBlanc (210 Wksp, Wpns WO) supervising the operation.



The dual role of the Air Defence Artillery School is signified by the two bronze cast, RCA and LEME badges which dignify the front entrance of the School's McNughton Building. ►